Notes on some Edible, Medicinal and Magical Xerophytic, Tuberous or Succulent Asclepiads and a Firework

By Pat Collins

This selection of notes started as I became interested in the edible succulent asclepiads such as *Caralluma edulis* and *Ceropegia bulbosa*. I did not realise quite how many different edible plants there are in this group and was surprised as the notes grew. My criteria for inclusion are not describable, there are many plants that I have not included simply because they are not familiar to me as succulent, tuberous, ceropegioid or whatever. There are several tuberous species I have omitted simply due to personal prejudice and for lack of time.

I have tried to concentrate on the lesser-known species. Less reported on the internet, that is. The *Asclepias* species themselves have tubers and have been used for medicine and food widely around the world. They have even been used to produce sugar, by drying the nectar from the flowers. During the Second World War it was claimed that a rubber extracted from *Asclepias* milkweeds could be produced by fermentation. The remarkable product was fire-resistant and petrol-resistant but did not replace foreign sources within two years as the author expected.[1]

I have left out many genera used around the world. They include, in Asian medicine; *Asclepias*, *Calotropis*, *Cryptolepis* (also rubber, fibre), *Cynanchum* (except for one species that I have included), *Gymnema* (peculiar effects on the sense of taste, taking out the taste of sweetness entirely), *Marsdenia* (also a blue dye like indigo), *Metaplexis*, *Periploca* and *Tylophora*. Genera used in Africa include: *Calotropis* (toxic, medicinal), *Cryptolepis* (charms, dyes), *Dregea* (aphrodisiac, beer flavour-improver), *Gomphocarpus*, *Gymnema*, *Kanahia*, *Marsdenia* (including condurango, an appetite stimulant), *Omphalogonus*, *Pergularia*, *Secamone*, *Solenostemma* and *Taccazea*. I seem to have ignored the Americas entirely. *Cynanchum* latex also smells like the devil's Copydex glue and I had to weed too much of it to like it. I have not been consistent, I am sure many of the Chinese lianas in little-known genera like *Myriopteron* are neither xerophytic nor succulent but I preferred to leave them in, just in case. Extending the scope to include the useful plants of the Apocynaceae in the old sense would make this a lifetime's work.

Calotropis is xerophytic and succulent. There is so much available on the uses of these widespread genera that it would take a long time to put it all together and much of it would just boil down to "emetic, purge, medicinal dose close to poisonous, don't do this at home". *Vincetoxicum*, for example, derives its generic name from the Latin for "Conqueror of Poisons". It was used to provoke vomiting and purging to rid the body of poison so as little as possible was absorbed from the stomach and gut. It was the rather rough Greek version of a detox. This genus might include the original *Asklepias* (ἀσκληπιάς) of Dioscorides.

There are two species of asclepiad that I can't resist mentioning here because they are still used on Mount Pelion in Thessaly where Asklepios was taught the art of healing and herblore by the centaur Cheiron. Both are regarded as toxic but are used occasionally as medicine. A decoction of the leaves and stems of *Cynanchum acutum* L. is used in small doses to help against rheumatism and arthritis and to promote perspiration. A decoction of the leaves and stems of *Periploca graeca* L. is used as a heart stimulant.[2]

I almost missed out *Leptadenia* because I did not realise that it has succulent stems and is one of the Ceropegieae. If it had not been used for starting fires and so given the startling specific name of "*pyrotechnica*" I would have not have investigated further. Then I found references for the rather gorgeous *Heterostemma* and *Orthanthera* in the same section of the family at the last minute.

I realise a lot of these plants have names that are the subject of discussion. When the whole family has been DNA fingerprinted and placed in their true taxonomy I promise to rename the entire list, Carallumas especially. If I live that long.

I have read all the references given. Some of these give further references for their information but I have not been able to access many of the more obscure and older ones. Some of the references given have more information about the plants. Their botany, appearance or habitat is often described, for example, but the edibility and medicinal information has been given here in full for most of the plants. The reader will notice that most of the uses are described very sparingly as little is given in the originals. I have tried to preserve the exact meaning of the original reports, occasionally updating the language or translating the jargon. This means that I have created a collation of many plagiarisms, or, more politely, research. Rules of grammar have often been ignored for brevity, I am afraid. Thank you to all the staff at John Rylands University Library of Manchester for their wonderful stock of books and help. I would also like to thank Tim and Alan of the IAS for their encouragement and some vital issues of *Asklepios*.

These plants are generally;

1) Endangered in the wild due to over-harvesting or habitat loss. I have not pointed out each endangered plant because most of them are, several are controlled by CITES. Please assume that they are all threatened. Buy from reputable nurseries and seed merchants that don't rape the wild.

2) Unpredictably poisonous (location, variety, season, plant part), containing potent variations on strange alkaloids and steroids. Just because other people have survived eating them does not mean you will. Cooking style may affect poisons. A small genetic change could mean the difference between a plant tasting of liquorice and a heart-stopper. These steroids may explain so many of the spp. being used for wounds as some plant steroids have similar effects (and side-effects) to those prescribed by doctors. Don't blame me for poisonings.

3) Less studied for their effects in humans than the majority of better-known herbal medicines. Which means that, even if they cure your furuncles, they may cause a disease that isn't even in very good dictionaries.

3) Misidentified. Sometimes the original plant being described will have been described as the wrong plant, sometimes plants in current commercial nurseries will be wrongly named. Common names can be used of more than one species. Sometimes the reports come through a chain of authors Chinese whispering to each other. As I said, don't blame me.

4) Strangely beautiful.

"Hey, Krito, we owe a cock to Asklepios. Pay the debt, don't forget."

The last words of Socrates, in *Phaedo*, Plato 118A.

Apteranthes europaea (Guss.) Murb. or *Caralluma europaea* (Guss.) N.E. Br. as you please.

Spanish: "chumberilla" = little or darling opuntia,

"chumberillo del lobo" = little opuntia of the wolf,

"penquilla" = little or dear opuntia (from "penca", an older local name for opuntia),

"penquilla del campo" = little opuntia of the field/countryside,

"penquilla de monte" = little opuntia of the mountain,

"empeinadora" = lots of possible meanings from impetigo to cotton,

"espinal" probably = backbone spine rather than thorny spine. [185, me]

Holy Land Arabic "darmūs"," darkmūs" or "tarmūs". [146]

The Arabs of the Mediterranean region in Africa call all the forms of C. europaea which grow there by the name of "Dachmous" (or "Damus") and eat the stems. [240] Western Sahara, *Euphorbia officinarum* ssp. *echinus* is also called "daghmús" [33], so this may be a general term for similar columnar succulents, whether edible or not. [me] Consumed as food in Morocco, quoted as "syn. *Apteranthes gussoneana* J.C. Mikan". [237] *Caralluma maroccana* (Hook. f.) N.E. Br. was also reported as eaten [237] but is also now regarded as being part of this species. Visiting the Cabo de Gata National Park in Andalucia, Spain I was informed by a local that this *Caralluma* had been eaten in the past and used as a medicine for joint problems. [me]

Apteranthes europaea* var. *judaica (Zohary) Plowes or *Caralluma europaea* var. *judaica* Zohary formerly *Caralluma negevensis* Zohary

Used by Bedouin vs. chronic lung diseases such as tuberculosis and cancer. Contains flavanol glycosides and the unusual megastigmanes as well as many of the usual pregnane steroids. [30]

Aspidoglossum spp. see ***Schizoglossum*** spp.

Baseonema gregorii Schltr. & Rendle

East Kenya, Sumburu district, Suiei Dorobo: "nkaisigo".

During the rainy season or early dry season the tuber is eaten raw or roasted. [7]

Biondia microcentra (Tsiang) P.T. Li

China: "qu feng teng".

China, decoction of all parts vs. rheumatism and fever. [141]

Blyttia fruticulosa (Decne.) D.V. Field

Kenya, Turkana, an infusion of the aerial parts vs. painful menstruation. Djibouti, Afar people, fresh fruits as a vegetable. [198]

Brachystelma spp.

Namibia and S. Angola, Ovambo: "naluhoni". [62] Swaziland. Tubers of all spp. believed to be edible. A famine food. [144] Lesotho, "Kalakankisi", regularly sought after as vegetable food supplements, eaten raw or cooked. snack for herdboys. [65]

Brachystelma barberiae Harv. ex Hook.f.

S. Africa. Tuber eaten and as water source. [211]

Brachystelma buchananii N.E. Br. previously called *Brachystelma magicum*, described from Zanzibar [40], *Brachystelma nauseosum* (the flower smells vile) and *Brachystelma shirense*.

Credited with almost magical powers of healing. Tuber chewed then applied over wounds. [49]

Brachystelma ciliatum Arekal & T.M. Ramakrishna

India, Telugu: "Potha Jougu Nimatalayu".

Small brownish tubers (to 4 cm diameter) used as food in Karnataka, South India. Habitat: dry grassland amongst scrub jungle. [25]

Brachystelma circinnatum E. Mey.

Swaziland. Edible stem tubers. [144] Reported as *Brachystelma filiforme* Harv., tuber eaten. [241] Reported as *Brachystelma pallidum* N.E. Br., tuber said to be poisonous. [241] This report may come from misunderstanding of the report in Marloth that stated that "flat poisonous tubers" occur in *Brachystelma* spp. The only illustration of a *Brachystelma* was a pair of black and white photos (figure 34) of *Brachystelma pallidum* but it was not stated to be poisonous. Neither were any species mentioned as edible. [150]

Brachystelma decipiens N.E. Br. reported as *Brachystelma tuberosum* R Br.

Tuber eaten. [241]

Brachystelma edulis Collett & Hemsl.

China, Guangxi, Yunnan: "run fei cao" (= "profit lung grass" according to Google Translate). [141]

Upper Burma, common (in 1890) on the sandy plains at Pyawbwe, about 100 miles south of Mandalay. "The fleshy root is sold as an article of food in the Bazar, and has a faint mawkish [nauseating, disgusting, sickly or insipid] flavour." The round tuber is up to an inch in diameter. [56]

Brachystelma elenaduensis Char. ex Sathyanarayanachar possibly = *Brachystelma edulis* [240]

India, Kannada: "Ullika" or "Unneeka".

Small tubers (to 3 or 4cm) used as food in Karnataka, South India. Habitat: sandy grassland. [53]

Brachystelma foetidum Schltr.

Botswana: "kopusete" or "kopusele". [91]

Southern Sotho, tuber eaten. Remedy for colds in children. [241] Botswana, leaves boiled with salt and eaten with porridge with or without margarine. Tubers edible, a kind of "serowa". [91]

Brachystelma gerrardii Harv.

Swaziland: "sidsendza", "sidzendza".

Edible fleshy roots. [144]

Brachystelma glabriflorum (F. Muell.) Schltr. formerly *Microstemma tuberosum* R. Br., *B. microstemma* Schltr. and *B. papuana* Schltr.

Australia, Northern Territory, many names from each group of native Australians who knew the plant.

Tubers eaten raw or roasted in the ashes of a fire. Grows in seasonal swamps during the short wet season. Tastes like a potato. One European complained that it gave him a severe headache, though the tuber might have been misidentified by the native young boy who found it. [75]

Brachystelma kolarensis Arekal & T.M. Ramakrishna

India, used as food. [75]

Brachystelma lankana Dassan. & Jayas.

Sri Lanka: "Patana ala" = grassland yam.

Edible fleshy tuber, up to 3.5 x 1.5cm. Collected for eating during the northeast monsoon rains. [20]

Brachystelma lineare A. Rich.

Ethiopia, Tigrinia: "ambaschia".

Tubers eaten in Ethiopia. [78] Tubers eaten by Abyssinians. [237]

Brachystelma perditum R.A. Dyer

Lesotho, tubers bought by a botanist, Bayliss, from Basuto herdboys, possibly their snacks. [65]

Brachystelma plocamoïdes Oliver formerly *Brachystelma linearifolium* Turril

"Tuber flat, garden-turnip size, edible and tasting of licquorice (sic)." [49]

Brachystelma praelongum* subsp. *thunbergii (N.E. Br.) Boele reported as *Brachystelma thunbergii* N.E. Br.

"Kambaroo, Kambroo".

Edible tuber, Karoo, S. Africa. [248]

Brachystelma swarupa K.K. Kumar & Goyder

Tuber eaten raw or cooked in Kerala and Tamil Nadu, S. India. [130]

Buckollia volubilis (Schltr.) Venter & R.L. Verh.

Kenya, decoction of the stem bark to ease childbirth and vs. malaria. Turkana, latex as glue to fix spearheads to the shaft. Aerial parts are sometimes eaten as a vegetable. [199] Tanzania, Sukuma, pounded tuber in drinking water to increase milk production in women and cows. [189]

Caralluma spp.

Used vs. syphilis in Zimbabwe and Malawi. [95] Kenya, several spp. have succulent, edible stems. [156] Western Sahara, one appearing like *Caralluma europaea*, called "Legyeible", young stalks eaten. Flowers have a sweet taste. [33] *Caralluma* cf. *arabica*, Arabic: "Ghalty", United Arab Emirates, "leaves" of young plants eaten. Milky latex used medicinally. [243]

Caralluma acutangula N.E.Br. reported as *Caralluma retrospiciens* N.E. Br., *Caralluma russelliana* (Courbon ex Brongn.) Cufod. and *Caralluma tombuctuensis* N.E.Br.

Mali, Dogonland: (tommo soo dialect) "omolobakadma", (dogulo soo dialect) "dululu". [108] Kenya, Turkana: "lokisitio", "lokosurio".

Sap applied to heal wounds. Pieces placed either side of the boma (compound) to magically protect animals vs theft or witchcraft. Women wear the stinky flower as decoration. [159] Regarded as a fetish by some tribes. Said to be very poisonous and avoided by animals. [59] In Mali the latex is used vs new wounds, juice as a coagulant for open wounds and the powder of the upper part applied vs boils. [108] Contains pregnane steroid glycosides and luteolin-4'-O-β-D-neohesperidoside. [17]

Caralluma adscendens R.Br.

India, Telugu: "Karallamu", "Taviti chettu". Andhra Pradesh: "kundetikommulu". [187]

India, tender shoots cooked as vegetable. [76] Andhra Pradesh, 2-3 inches of stem crushed, with pepper, ginger and salt twice per day for two days vs. coughs. [187] See also *Caralluma dalzielii*.

Caralluma adscendens* var. *fimbriata (Wall.) Gravely & Mayur. or *Caralluma adscendens* var. *carinata* Sarkaria often referred to as *Caralluma fimbriata* Wall. but also *Caralluma attenuata* Wight.

Sanskrit: "Yugmaphallottama", Tamil: "Kullee Mooliyan", "Kallimudayan", Kannada: "maakada singi", "mangana kodu", Marathi: "Makad Shing", Telugu: "kaarallamu", "kundelu kommulu" [80], Bombay Presidency: Ahmednagar district, Rahuri Taluka: "Ranshabar". Poona and Satara districts: "Makad shenguli", Nasik and Ahmednagar districts: "Shindala makadi". [76]

The plant has been eaten raw, curried and pickled. [21, 80] India, Rajasthan: whole plant boiled in water and mixed with salt and chili peppers, if available. India, Deccan: green follicles eaten. [76] Part of the regular diet of locals in Southern India. [209] The plant may contain 88% water by weight. [133]

Used medicinally vs. diabetes, pain, fever, inflammation and as an appetite suppressant. [4] Suppresses hunger, enhances endurance, famine food, thirst quencher. [133] Juice of the plant with black pepper recommended in Andra Pradesh for the treatment of migraine. Chemical investigation revealed the presence of a flavone glycoside luteolin-4'-O-neohesperidoside, a potent anti-inflammatory more powerful by weight than ibuprofen but without painkilling action. [181]

India's answer to Hoodia diet pills, extracts are sold as "Slimaluma". More claims are being made for Slimaluma, including memory improvement. [180] Showed small reductions in weight compared to control after 60 days in a study on 50 people, though the placebo group started with slightly less weight and lower Body Mass Index. The 100:1 extract had a remarkably low toxicity. [133]

Caralluma aucheriana (Decne.) N.E. Br. (may be = *Caralluma arabica* or *Caralluma tuberculata*)

Oman: "dij".

Oman, as emollient and tea from stems vs. liver problems. Milk curdled with juice from the stem given to speed convalescence. Juice from stems aplied to soothe burns and for sunburn and itchy skin. Fresh stems are edible and are often eaten as a tonic and for giving vitality. Commonly sold in markets in Muscat and the United Arab Emirates. [79]

Caralluma dalzielii N.E. Br. (regarded by some as = *Caralluma adscendens* or = *Caralluma subulata*)

Burkina Faso, Baskoure: "rumkim suuga". [165] Mali, Dogonland: (tomoso dialect) "sukulaga". [108] Dahomey, Pila-Pila "nenoch". N. Nigeria, Hausa "karan masallachi" (literally "mosque reed") or in Gando "wutsiyar damo" (literally "monitor's tail" from the appearance of the growing shoots). Fulani "gubehi". [59]

In Dahomey it is planted as a fetish in yam fields, etc. Sometimes planted at praying grounds, etc. as a charm against evil. Grows easily from cuttings. The stems are crushed and eaten raw as a tonic and stimulant. The plant is used against faintness while fasting, pain in the chest and epigastric region. [59] Liquid from heated stem applied for otitis in Mali [108] and Burkina Faso and applied to teeth to treat caries. [195] Antispasmodic, analgesic. Bandiagara Region of Mali, stems ground and eaten raw as tonic and vs. bodily exhaustion and heart problems. Latex vs. suppurating wounds. [64] In Burkina Faso a maceration of the tubercle is used vs. urinary retention, otitis, asthma, malaria, hernia and as a tonic for elder people. [165] Nigeria, tonic, aphrodisiac, analgesic and antiemetic. Pregnane glycosides present in both Malian and Nigerian varieties but different types in each. [174] Niger, Hausa apply the latex to wounds to disinfect and heal. Crushed aerial parts together with the leaves of Ozoroa insignis Delile are taken by children vs. coughs. Latex vs. bites and stings of venomous animals including spiders, ants, scorpions and snakes. A decoction of the stems is given to stop vomiting and to treat epilepsy. Western Sahara, Moors said to make a strong poison by macerating the crushed stems in sheep urine. [195] All [195] data are given as *Caralluma adscendens* but are clearly of the West African variety.

Caralluma dicapuae (Chiov.) Chiov. **ssp *dicapuae***

Kenya, Turkana: "Lochen".

Used in placing curses. [159]

Caralluma edulis (Edgew.) Benth. ex Hook. f. (= *Caudanthera edulis* (Edgew.) Meve & Liede?)

Arabic: "adouaiba", "aboila". Pakistan: "pippa", "pippu", "chaunga". [13] India, Sanskrit: "dughda", Bengali: "Chung", Marathi: "pippa", "pippu". [83] India: "situn". [115] Pakistan: "Chounga". [8]

Consumed as food. [14, 83, 237] Sold in markets and eaten raw or pickled. [21] Eaten raw, fresh in the morning or cooked as a vegetable. Sold in markets and has potential to be introduced on a wider scale. Dried plant contains: 39.63% carbohydrate, 8.6% protein, 8.98% lipids, 18.4% fibre, 14.57% ash (minerals). Medicinally cooling, alterative, anthelmintic and vs. leprosy and diseases of the blood. [13, 83] Raw as a vegetable in Mauritania. India, fresh stems are sold as a vegetable in local shops. [115] Pakistan, Salt Range, as vegetable. Juice vs. diabetes. Cut into small pieces, mixed with condiments and cooked as a vegetable for blood purification. [8]

Manchester, UK, fresh vegetable, whole stems with some small roots. Not yet botanically determined yet but sold as "chonghah" from Pakistan co could also be *Caralluma tuberculata*. £5.50 per kilo. The grocer called it "the best vegetable in the world". He compared it favourably to another of his favourites, "karela" the Bitter Gourd, of which I can't eat more than a tiny fragment. The bitterness is desirable as a balance to the overconsumption of sweets. It is very medicinal and used for many complaints in Ayurveda including diabetes. Very popular with women. Recommended to be fried with tomato and other vegetables then served with potatoes. [183] Raw, it had a pleasing crisp moistness but was immediately very bitter though in a clean pure manner that could probably be tolerated if one became accustomed to it. I tried it gently fried for ten minutes, it was still very bitter but with liquoricy overtones. Not as bitter as "karela". The bitterness stayed in the mouth for 15 minutes after finishing the small portion. The texture was pleasant, more like a moist root vegetable than I had expected. [me]

Caralluma flava N.E. Br.

Oman, fresh succulent stems, flowers and young fruit eaten. Stem becomes bitter towards the lower end. [79]

Caralluma indica (Wight & Arn.) N.E. Br.

Edible and enjoyed by shepherd boys. [173]

Caralluma penicillata (Deflers) N.E. Br.

Yemen: "ġulâf aljudarî" [72], "uluth" [12]. Saudi Arabia, Aseer region: "gulthi". [16]

Stem local anaesthetic, ophthalmic, antiseptic vs smallpox. [72] Fruits vs. skin rash, scabies. [12] Plant used in traditional Saudi medicine for the treatment of snake and scorpion envenomation. It has been blamed for the mass poisoning of sheep. [3] Saudia Arabia, Aseer region, used vs. snake, scorpion bites and as a blood purifier. [16]

Caralluma quadrangula N.E. Br.

Holy Land Arabic: "gholaḳ", "gholeẓ" or "gholef". [146] Arabic: "Gholef", "Gholœs", "Gholak". [74] Yemen: "ġulâf aljudarî".

Sap of stem ophthalmic, antiseptic. [73] Oman, fresh succulent stems, flowers and young fruit eaten. Stem becomes bitter towards the lower end. [79]

Caralluma sinaica (Decne.) A. Berger

Saudi Arabia: Asir Region, chewed to control diabetes. Showed some effect in rabbits. [85]

Caralluma socotrana (Balf. f.) N.E. Br.

East Kenya, Sumburu district, Suiei Dorobo: "mpashach".

Stem eaten raw. [7]

Caralluma speciosa N.E.Br.

Kenyan Rendille "biche khúdúmo" = "evil water".

Latex applied to cure open wounds. Decoction used externally to unblock camel teats. Boys play with flowers, e.g. as a dye. [98]

Caralluma stalagmifera C.E.C.Fisch

Used in India vs. migraine. [21]

Caralluma tuberculata N.E. Br.

Edible. Found in the lower tracts of the Himalayas. [173] Consumed as food, treats rheumatism, diabetes, leprosy, reduces fever [4] and vs. intestinal worms and blood disease. [79] Reputed cure for diabetes and rheumatism. Pregnane steroid glycosides. Wild and cultivated throughout Pakistan. Eaten raw or cooked as a vegetable. [232] Sold in markets as a vegetable in Pakistan. [240]

Caralluma umbellata Haw.

India, Tamil Nadu, Western Ghats: “Sirumankeerai”. [239]

Chitoor District and Andra Pradesh, India. Stem juice warmed and mixed with turmeric powder vs. stomach disorders. and abdominal pains. Activity-guided chemical analysis led to the discovery of a pregnane steroid glycoside carumbelloside-I which showed activity as a pain-killer (antinociceptive) and a flavone glycoside luteolin-4'-O-neohesperidoside, a potent anti-inflammatory. [182] Sri Lanka, for setting bones and as a poultice to draw out spines and thorns. [79] Western Ghats, reported as *Caralluma lasiantha*, ten grams of fresh plant without roots twice a day for three days to reduce body heat. [239]

Ceropegia spp.

Dalziel claimed that no West Tropical African species were recognised as edible but several from Abyssinia and Upper Nile Land were. He then gave the Malinke name "fouyé" for undetermined spp. with edible tubers. Cooked they are said to taste like Jerusalem artichoke. [59] Ugandan So, unidentified sp. "sím íD" = "milk vine". Rarely used as a vegetable. Sticks for cleaning. [97] A Canarian sp. "cardoncillo" or "dedos de santo" (saint's fingers), stem juice vs. wounds. Used for tanning. [60] Swaziland. Tubers of all spp. believed to be edible. A famine food. [144] S. Africa, "Serowa" (also used of *Brachystelma* spp.), all discoid spp. edible. [92] East Kenya, Sumburu district, Suiei Dorobo: "langodai" *Ceropegia* sp. cf. *euryacme* Huber. (= *C. linearis* ssp. *woodii*?) and "nkerioi" *Ceropegia* sp. cf. *stenantha* K. Schum. root eaten raw in the rainy season and early dry season. Leaves of "nkaramirami" and "nkirioyo" eaten raw in the rainy season and early dry season. [7] Tanzania, leaf eaten by chimpanzees. [246]

Ceropegia arabica* var. *powysii (D.V. Field) Meve & Mangelsdorff or *Ceropegia powysii* D.V. Field

Kenya, fusiform fleshy tuber eaten. [71]

Ceropegia aristolochioides Decne. **ssp. *aristolochioides***

Ethiopia, Tigrinia: "schamigge", Somali: "mororo".

Tubers eaten in Ethiopia. [78] Niger, decoction of aerial parts is applied to treat itchy skin eruptions. Senegal and Ethiopia, tuber is cooked and eaten. [200]

Ceropegia attenuata Hook.

Marathi: "Sada Khantudi". [80]

Maharashtra and Karnataka, India, tubers eaten as food. [173]

Ceropegia bulbosa Roxb.

India, Rajasthan: "Kadula" [112], "Kaduloo" [113], "Kewda Ki Nal". [222] "Patalatumbi" [235]. India, Gujarat: "Jeemi Kanda". [34] India, Madhya Pradesh, Chhattisgarh: "bosiya kandha". [125] Bombay Presidency, Khandesh district, Shahada: "Dúdha malida kand" ('milk and sweetmeat'). Nasik district, Chandor: "Malode". Western Rajasthan: "Hedulo", "Khapparkadu". [76] Hindi: "Khapparkadu", Kannad: "Halliki", Marathi: "Khapparkadu", "Patali Kumbari", Punjabi: "Galat", Telegu (Telugu): "Palatige". [83] Pakistan: "Glote". [8]

Tuber tonic, aphrodisiac and edible. [125] Tuber eaten raw to increase fertility and vitality in both sexes. [112, 113] India, Bombay Presidency: tubers and leaves eaten uncooked. Also eaten boiled, and mixed with either milk and sugar or with salt and spices. India, Rajasthan, western: tubers and leaves eaten raw of boiled. [76] Refrigerant (adapts the body to excessive heat). [34] Tubers eaten raw vs. stomachache. Dried tuber rubbed on stone to apply to scorpion sting. [235] Root tubers edible, reported as *Ceropegia vignaldiana* A. Rich. [154] Usually boiled before eating to remove the bitterness due to the alkaloid ceropegine. [176] Gujarat, Ratan Mahal Hills tribes tuber as refrigerant. Maharashtra tribes, tuber for vitality. Rajasthan, Maharashtra and Goa tribes eat the tubers and leaves as vegetables. Ceropegine is the bitter principle. [83] Tuber vs. diarrhoea, dysentery. [129] Tubers "bitter, somewhat like raw turnips." [14] Arabian Peninsula, tuber eaten, as snack food by herders. [79] Pakistan, Salt Range, tubers cooked in milk and sugar to prepare a highly nutritious sweet. Tubers as aphrodisiac, tonic and vs. seminal debility, leucorrhoea and some digestive complaints in children. [8] Rajasthan, tuber eaten cooked or raw. Tuber, decoction orally vs. urinary bladder stones. Seed paste inside ear vs. deafness. [222]

Ceropegia candelabrum L.

India, Tamil Nadu: "perun-kodi" [29, 107], "kattuvalli". [63] Rajasthan: "Kaduloo" [113], Sanskrit: "Bhutumbi", Hindi: "Patalatumbi", Marathi: "Khapparkadu", Telegu (Telugu): "Bachalimanda". [83]

Tuber to increase fertility and vitality. Whole plant vs. kidney stone. [113] Tamil Nadu, decoction of leaf and stem with *Vitex negundo* leaf, stem bark of *Thespesia populnea* and *Crataeva adansonii*, two times per day vs. one-sided headache. [29] Paste of leaves applied to forehead vs. headache. [107] Tamil Nadu, leaf juice vs. stomach disorder. [63] India, tuber medicinal vs. diarrhoea and dysentery. Rich in ceropegine. [35, 36] Tuber tonic in bowel complaints in children. Remedy for diarrhoea and dysentery. [83]

Ceropegia candelabrum* var. *biflora (L.) Ansari

Used as *Ceropegia bulbosa*. [129]

Ceropegia crassifolia Schltr. **var. *crassifolia***

Swaziland. Eaten as a vegetable. [144]

Ceropegia decaisneana Wight

This plant or *Ceropegia elegans* reported to be used in 1874 in modern Vedic rituals on the Malabar coast as a substitute for the ancient "Soma". [172]

Ceropegia dichotoma Haw.

Canary Islands: "sayon mataperro" = long-tunic kill-dog or from "sayon", a xerophytic member of the Chenopodiaceae.

Stem juice vs. wounds. Used in tanning. [60]

Ceropegia dichotoma* ssp. *krainzii (Svent.) Bruyns reported as *Ceropegia krainzii* Svent.

Canary Islands: "mataperro" = kill-dog, also used of the weedy asclepiad Cynanchum acutum, cf. the English "dogbane" and Greek-derived plant names "Cynanchum", "dog-strangler" and "Apocynum", "dog-poison" . "cardoncillo" = "little teasel or columnar cactus", "uña de gato" = "cat claw".

Juice of stem or aerial parts as cicatrizant. [61]

Ceropegia elegans Wall.

This plant or *Ceropegia decaisneana* reported to be used in 1874 in modern Vedic rituals on the Malabar coast as a substitute for the ancient "Soma". [172]

Ceropegia evansii McCann

Maharashtra, India, tubers eaten as food. [173]

Ceropegia fusca Bolle

Canary Islands "cardoncillo" = "little teasel or columnar cactus".

Stem juice vs. wounds. Used in tanning. [60]

Ceropegia hirsuta (two possible authors) also called *Ceropegia hispida*, *Ceropegia jacquemontiana* and *Ceropegia ophiocephala*.

Marathi: "Hamana".

In Maharastra, India the tubers of this Hairy Ceropegia are eaten as a vegetable. [80]

Ceropegia intermedia Wight

India, used as *Ceropegia bulbosa*. [129]

Ceropegia juncea Roxb.

Marathi: "Wel Khantudi", Telugu: "Bellagadda". [80]

Andhra Pradesh, Tamil Nadu and Karnataka, India, extract of the plant used as a tranquilliser. [173] Reported to be the source of "Soma", an Ayurvedic drug with a wide variety of uses. Alcoholic extracts were found to be antipyretic, analgesic, local anaesthetic, anti-ulcer, mast-cell stabilising, hepatoprotective, tranquillising and hypotensive in animals. The effects were found to be due to the alkaloids. The major alkaloid is cerpegine, an unusual pyridone. [6]

Ceropegia keniensis Masinde

Kenya, Rift Valley province, Masai: "engerio-ekop".

Fleshy fusiform roots eaten for their juice as a thirst quencher. [154]

Ceropegia lawii Hook. f. also called *Ceropegia maccannii* Ansari

Marathi: "Kharpudi", "Pivli kharchudi".

Maharashtra, India. Tubers eaten as food in high numbers. [80] Bombay State, tuber reaches 10 x 8 x 6 cm and contains abundant and edible starch. Much collected by locals. [196]

Ceropegia linearis E.Mey.

Swaziland. Edible stems for water. Edible tubers. [144]

Ceropegia linearis* ssp. *woodii (Schltr.) H. Huber, the commonly grown "*Ceropegia woodii*"

Xhosa. Stem and leaves vs. chest complaints. [157]

Taste test: Three tubers, 6.4g total weight. Raw. Remarkable resemblance to salad radish or baby turnip in texture and taste. Very juicy. Not really mustardy but quite hot but also with a little of the astringency of a Jerusalem artichoke. One tuber, 11g. Boiled for ten minutes. Delicious, no particular taste dominating, no astringency, texture of a lightly-boiled baby carrot that is still firm. Very juicy. Leaves, 12.5g. Delicious, just acidic enough to be tasty but not excessive. Succulent, juicy and easy to chew. [me] Thanks to Cactus Shop [50], who had never used pesticides on the plants they sold to me.

Ceropegia lugardae N.E. Br.

Tanzania, fresh roots are chewed, root sap swallowed and the mashed roots are applied vs. snakebites. Zimbabwe and Namibia, fleshy roots washed and eaten raw, cooked or roasted. A source of water in time of drought. Namibia, Bushmen hunters rub the leaves on the strings of bows to make them smooth and pliant. Stem, roots and fruits are bound on the body as a lucky charm during hunting. [200] Roots edible roasted, texture and flavour like *C. nilotica*. [88]

Ceropegia meyeri Decne.

Swaziland. Leaves eaten as spinach by Vendas. Edible tubers. [144]

Ceropegia multiflora Baker

!Kung: "!gama". [116] Setswana: "Serowa". [88]

Root edible. [137] 100g fresh tubers contain: water 95 g, carbohydrate 3 g, protein 0.8 g, fat 0.03 g, fibre 0.3 g, energy 65 kJ (15 kcal). [116] Tuber edible roasted. [88]

Ceropegia nilotica Kotschy **var. *nilotica***

Swaziland. Tubers eaten by Bushmen in Namibia. [144] Roots edible when roasted, flavour like a potato but distinctly its own and firmer. No fibre, suggested that it could be cultivated as a vegetable. [88]

Ceropegia pachystelma Schltr.

Botswana: "Serowa".

Tuber edible. Hargreaves first encountered this species as he rescued it from a museum driver, Rapakehenene, who had already taken a bite from the tuber. [88]

Ceropegia panchganiensis Blatt. & McCann

Maharashtra, India, tubers eaten as food. [173]

Ceropegia papillata N.E. Br.

Malawi, Kota Kota Hills, tuberous roots and raw leaves eaten by boys. Watery tubers eaten vs. thirst. [116]

Ceropegia pubescens Wall.

Nepali: "ban semi", "mirkey laharo".

Nepal, juice of the bark applied vs. boils, pimples, cuts and wounds. [149]

Ceropegia pygmaea Schinz

Namibia and S. Angola, Ovambo: "ombutu yanamukutu". Botswana: "mowane". [88]

Edible root. [62] Tubers eagerly sought as food. [88]

Ceropegia rendallii N.E. Br.

Swaziland. Edible tubers. [144]

Ceropegia sahyadrica Ansari & Kulk.

Marathi: "Pandhri kharchudi". [80]

Maharashtra, India, tubers eaten as food. [173]

Ceropegia sobolifera N.E. Br. formerly called *Ceropegia subtruncata* N.E. Br.

Eaten by people (in Africa, presumably). [46]

Ceropegia spiralis Wight

S. India, Andhra Pradesh: “Nimmati gadda”.

Root tubers edible, used in many Ayurvedic formulations as a nutritive tonic and vs. diarrhoea and dysentery. [213] For indigestion one teaspoonful of tuber paste is taken once per day for three days. [186]

Ceropegia stenantha K.Schum.

Tanzania, root decoction vs. stomach problems in young children. Zimbabwe the root is chewed and the sap swallowed as a lucky charm. [200]

Ceropegia stenoloba Hochst. ex Werderm.

East Kenya, Sumburu district, Suiei Dorobo: "lchipiliongi"

Root eaten raw in the rainy season and early dry season. [7]

Ceropegia tuberosa Roxb. Wall now passed to either *Ceropegia candelabrum* L. or *Ceropegia bulbosa* Roxb.

India, Western Rajasthan: "Khadula". Rajasthan, "Kewda Ki Nal". [222]

Tubers eaten raw or roasted. [76] Used as *Ceropegia bulbosa*. [129] Rajasthan, tuber eaten raw or cooked. Tuber powder applied to venomous bite. [222]

Ceropegia turricula E.A. Bruce

Eaten in S. Africa, as are "allied species". [241]

Ceropegia vincaefolia Hook. or *Ceropegia hirsuta* var. *vincaefolia* (Hook.) Hook. f

Marathi: "Kandil Kharchudi". [80]

Maharashtra, India, tubers eaten as food. [173]

Cibirhiza spp.

The generic name is derived from the Latin "cibus" (= food) [140] and the Greek "ῥίζη" (rhize = root). [142] As neither the Latin *Cibiradix* nor the Greek *Bromorhiza* are taken as names for genera of plants it seems strange to have chosen the portmanteau version. I blame television. [me]

Cibirhiza dhofarensis Bruyns

Arabian Peninsula, stem, leaves and roots eaten, as snack food by herders. [79]

Cibirhiza kaariyei Thulin

Ethiopia, Somali National Region State: "Maroro".

Tuber and stem edible. [229]

Cibirhiza spiculata Thulin

Ethiopia, Somali National Region State: "Dhoonbir". This name is shared with other climbers with edible tubers such as *Schlechterella abyssinica*.

Tuber edible and searched for by the local population. Consistency and taste reminiscent of raw potatoes. [228]

Cynanchum paniculatum (Bunge) Kitag. formerly *Pycnostelma chinense* Bunge ex Decne.

China: "xú cháng qīng" [5] (= *Cynanchum paniculatum* according to Google Translate).

China, all parts vs. stomachache, enteritis, infantile malnutrition due to intestinal parasites, toothache, traumatic injury. [141] China, vs. pain, skin disease, chronic bronchitis or asthma. Dose 3-12g. [251] Root/rhizome as sedative and vs. rheumatoid arthritis, traumatic injuries, urticaria and eczema. [221] Due to its wide use as a medicine it is called "Drug King". [188] Root used to drive away evil effluvia. Root acrid, somewhat deleterious, used vs. marasmus, nervous affections, car and sea sickness. Sometimes confused in Chinese works with *Gastrodia elata* (Orchidaceae) and *Macroclinidium verticillatum* (Asteraceae). [218]

Snakes will not enter a house with this plant. [188] Used vs. snake bite. [141] While it might seem strange that this is the most popular remedy for snake bite in China there is some scientific support for this use. [161] The tuber contains as much as 4.3% of paeonol [221], 2-hydroxy-4-methoxyphenylethanone, a very similar compound to those found in the snake bite cure Hemidesmus indicus, see that entry for more on snake bites. Paeonol is also found in the roots of the moutan or tree pæony (*Paeonia suffruticosa* Andrews) and other pæonies used in medicine. Paeonol has been tested for a bewildering number of pharmacological effects in the laboratory, especially anti-inflammatory and anti-atherosclerosis. It has shown a powerful protective effect on the livers of mice during an involuntary 8 week alcoholic bender. [104]

Taste test: dried roots bought from a Chinese herbalist, £2.50 for 50g. [5] The shopkeeper remarked that the root is "a little poisonous" and that the maximum dose should be 12g. Made into a tea with 3g of root (broken slightly between the fingers) to 300ml of boiling water it made a very pleasant naturally-sweet drink. No overwhelming tastes or smell but a well-balanced liquorice/sarsaparilla/pæony root flavour and a sweet odour with hints of aniseed and mushroom. No nasty aftertaste, staying sweet in the mouth for some time. [me]

Decalepis arayalpathra (J. Joseph & V. Chandras.) Venter

India, Kerala: "amrithapala". [227] Siddha, Tamil: "mahali kizhangu". [129]

Southern forests of the western Ghats. Highly aromatic moniliform tuberous roots. Kani tribes use the root vs. peptic ulcer, cancer-like afflictions and as a rejuvenating tonic. [220]

Decalepis hamiltonii Wight & Arn

Western Ghats: "makali beru", "mahali kizhangu", "maredu gaddalu". The cooling, refreshing drink prepared from it in India: "nannari". [166]

India. Root extract is taken orally to rejuvenate the body and it is the popular health tonic for rural people. [186] Fresh, sliced root pickled with lime or used as it is. Appetiser, blood purifier. Strong aromatic odour, sweet taste and gives a tingling sensation on the tongue. [166] Root included in pickles and as an ingredient of many ayurvedic medicinal preparations. [169] Root contains 0.33% of an essential oil produced by hydrodistillation with the major component 2-hydroxy-4-methoxybenzaldehyde at 37.45% among other aldehydes including salicylaldehyde at 31.01%. [226] Another report states that steam distillation gave a volatile oil at 0.68% of the fresh, fleshy roots composed of 96% 2-hydroxy-4-methoxybenzaldehyde, the next most abundant compound being vanillin at 0.45%. [166] See also *Hemidesmus indicus* and *Mondia whitei*.

Dischidanthus urceolatus (Decne.) Tsiang

China: "ma lan teng".

China, whole plant vs. pain caused by rheumatism. [141]

Dischidia spp.

Philippines, roots smashed and mixed with tubã (palm sap) to avoid fermentation. Philippines, root fragrant. Philippines, sap vs. boils. [188]

Dischidia acuminata Cost.

Indochina, infusion as diuretic and remedy for blenorrhoea (excessive discharge of mucus). [177]

Dischidia formosana Maxim.

Taiwan, used as an anti-inflammatory and diuretic. Contains salicylic acid (the precursor to aspirin), a steroid and flavonols. [54]

Dischidia imbricata (Blume) Steud.

Indonesia, Moluccas. Leaves are heated and bound on injured feet. Used internally to treat gonorrhoea and frambesia. Sometimes chewed as betel. [177]

Dischidia major Merr. reported as *Dischidia rafflesiana* Wall.

Malay peninsula, roots from the saccate leaves or creeping stem may be chewed with betel to relieve coughs. [177]

Dischidia nummularia R. Br. = *Dischidia gaudichaudii* Decne., *Dischidia orbicularis* Decne.

Used to allay the pain of dangerous venomous fish stings, as are "similar plants". Latex and leaves used to correct sprue (a mouth and throat disease) in children. [177]

Dischidia platyphylla Schltr.

Philippines, leaves pressed to make them juicy then applied to baga (boils). [188]

Dischidia purpurea Merr.

Philippines, Tagalog: "Kalipkip". Samar-Leyte Bisaya: "Talokop". [219]

Leaves applied as a poultice or cooked with coconut oil to use as an ointment vs. eczema and herpes. [177]

Dischidia vidallii Hort.

Philippines, Tagalog: "Dapo-sa-boho", "Lobo-lobo". [219]

Leaves are crushed with salt and applied to goitre. [177]

Dregea sinensis* var. *corrugata (C.K. Schneid.) Tsiang & P.T. Li

China: "guan jin teng",

China, stems and leaves vs. jaundice, gonorrhoea, edema, and pyodermas. [141]

Dregea sinensis* var. *sinensis Hemsl.

China: "ku sheng".

China, all parts to induce lactation and vs. rheumatism and fractures. [141]

Dregea volubilis (L. f.) Benth. ex Hook. f. = *Wattakaka volubilis* (Linn. f.) Stapf, also reported as *Hoya viridiflora* R. Br.; Griff

Bombay Presidency, Panch Mahals district, Godhra: "Doda" Flowers, "Dodi". Khandesh district, Talda: "Chiri". Ahmednagar district: "Phundi". Tamil: "Cooringee keeray". Andhra Pradesh: "kalisaku". [123]

India: root eaten. Leaves eaten uncooked or boiled. Fruit eaten. Flowers eaten uncooked or prepared into a bhaji. Among the Bhil people of Durgi and other villages in the Dholka Taluka a powder (said to be pollen) is removed from the flowers and used in the preparation of Dhoklas, a small, thick bread. Madras Presidency: leaves used as greens. [76] Hainan, China, used as medicine. [188] Causes sneezing. [129] Andhra Pradesh, root extract orally and paste applied vs. snake bite. [123]

Echidnopsis spp.

Arabian Peninsula, eaten, as snack food by herders. [79]

Ectadiopsis oblongifolia (Meisn.) Schltr.

Southern Malawi: "nyanga wa gwapi" (= duiker horn, from the seed pods, see also Margaretta rosea), "bwazi", "chibwabwa", "katunga", "nahe", "napose", "nyananga".

"Like a spear it overcomes any disease." Roots boiled vs. bilharzia, headache, venereal diseases including gonorrhoea and vs. "all ailments". Leaves made into a slimy relish "Thelele". Used to make rope. [160]

Edithcolea grandis N. E. Br.

Kenyan Chamus "l-okorósio".

Kenya, Chamus, the top end of the stem is chewed. For strength in children the root or whole plant is boiled and milk added. The name is mentioned as a blessing during circumcision ceremonies. [96] Ethiopia, Somalia stems eaten as a vegetable. [117]

Fockea spp.

S. Africa. Tincture in brandy as liniment for back pain. [241] Edible species called "!xwa" by !Kung San of Nyae Nyae, usually eaten raw as soon as they are dug up. Important source of liquid. People can live on these for a time without any water. Popular name "water bottle". [151] Namibia and S. Angola, Ovambo: "enowa" name for *Fockea* spp., large bulbous watery tuber containing soporific juice. [62]

Fockea angustifolia K. Schum.

"Kambaroo", "Kambroo". [248]

S. Africa. Tuber eaten raw or boiled with sugar. [241] Edible as food and drink. Boiled with sugar to make preserves like those made from figs and melons. [150] San eat the tuber. Crunchy and moist. White flesh has the faint but rather pleasant flavour of coconut ice. [88]

Fockea comaru N.E.Br

"Bergkambroo".[41]

Cape province: Edible tuber, reported as *Fockea gracilis* R.A. Dyer. [19] Tubers dug out and eaten. [41] Karoo, tubers eaten to suppress hunger and thirst. Well-known food. [247]

Fockea edulis K. Schum.

"Kambaroo", "Kambroo". [248]

S. Africa. Tubers grow to as much as 58 pounds (26 kilos) in weight or more. [150] Up to 1 metre in diameter [41] or 1 metre long and 310mm diameter. [57] Tubers eaten raw or cooked. Centre of tuber used instead of watermelon rind in "konfyt", a type of jam. [241] Cape province: edible tuber, reported as *Fockea cylindrica* R.A. Dyer. [19] Karoo, tubers eaten to suppress hunger and thirst. Well-known food. [247]

Leaf used as vegetable in Japan. [241] This report (and more recent repeats that I have noticed) concerning Japan could be some confusion as Heber Drury reported in 1858 [66] that the Japanese eat the leaves of "*Pergularia edulis*". As *Pergularia edulis* Thunb. this was one of the names of *Fockea edulis* from 1794. There is a tuberous climber that provides edible leaves, young fruit and tubers to the Japanese [70], called *Metaplexis japonica* (Thunb.) Makino since 1903. It was called *Pergularia japonica* Thunb. since 1784. As 1858 was only five years after Captain Perry started his gunboat diplomacy to end Japan's seclusion it is possible that the botanical reports were not then all of the highest quality. [231, me]

Tasting notes: Small tuber grown in England, weighing 48g, after peeling the thick cortex 25g. Eaten on the 24th of October, obviously some time into its dry season. Latex mildly astringent, mildly bitter but acceptable. Good, creamy texture turning to gluey on the lips after a few minutes. Inside of the tuber woolly texture like a limp parsnip but easy to chew, not fibrous. Hint of bitterness but nothing compared to green lettuce. Very juicy. The top third was more woolly, the bottom two-thirds getting juicier and a little crisper. None of it was difficult to chew. Subtle pleasant root vegetable flavours, none dominating but not characterless either. Nice aftertaste. [me]

Thanks to Croston Cactus [58] for selling me the excellent plants, with no pesticides applied for 4 weeks.

Fockea edulis* var. *capensis (Endl.) G.D. Rowley formerly *Fockea crispa* K. Schum., *Fockea capensis* Endl.

"Kambaroo", "Kambroo". [248]

S. Africa. Inedible. [241] Edible. [248] Only the watery fluid is of use. [150]

Fockea multiflora K.Schum.

English "vegetable python". [57]

Namibia, extract of aerial parts in brandy back rub vs. backache. All of its range, latex is used in arrow poison. Namibia, latex is in food as a criminal poison or to poison large predators. [201] Tanzania, Gulwe District, the sweetly-scented flowers sometimes used as a vegetable. [41]

Fockea sinuata (E. Mey.) Druce

South Africa, Namibia: "vlak-kambroo". [41]

Edible as food and drink. Boiled with sugar to make preserves like those made from figs and melons. [150] Tubers often dug up and eaten. [41]

Fockea undulata N. E. Br.

S. Africa. Tuber eaten raw or boiled with sugar. [241]

Glossonema spp.

All *Glossonema* spp. are reported to have copious latex but it is sweet and innocuous. The sweet, fleshy fruit is a valued prize, especially among herd boys. [47]

Glossonema boveanum Decne.

Burkina Faso, Baskoure: "loguinlosido". [165] Western Sahara: "achacan". [84] Algerian Sahara, Aïr: "echoko". [77]

Burkina Faso, whole plant powdered decoction as antiemetic and vs. sexual weakness. [165] Western Sahara, fruit eaten, called "gron achakán". [84] Algerian Sahara, leaves, flower buds and fruits eaten raw. [77]

Glossonema edule N.E.Br. (= *Glossonema varians*?)

Qatar: "Garawah", "Yarawah".

Unripe fruit edible. Almost every Qatari knows the plant and eats the unripe fruit. The seeds are also cooked. [191, 192]

Glossonema nubicum Decne. (= *Glossonema boveanum* ssp. *nubicum* (Decne.) Bullock)

N. Nigeria, Hausa: "taringi'da", "tatari'da". Fulani: "chakum chako". [59]

N. Nigeria, famine food. Ghana, leaves eaten raw. [47] Nigeria, flowering tops and fruit eaten raw. [110] Taken by women to increase lactation. [59]

Glossonema revoili Franch.

Kenya, Kimasai: "olkarere".

Kenya, North Eastern Province, Wajir, edible fruits. Tanzania, young fruits eaten by herd boys. [47]

Glossonema thruppii Oliver in F. L. James

Somaliland, Somali: "askar", "khuruchi", "subkab".

Sweet young fruit, to 3 x 6.5cm, much relished by Somalis. [47]

Glossonema varians Benth. ex Hook.f. (= *Glossonema edule*?)

Arabic: "kurraysh". [243] Pakistan, Sindh Province, fruit "moonga". [47]

United Arab Emirates, young fruits edible and tasty. [243] Qatar. Edible fleshy follicles. [207] Pakistan, edible [128], fruit eaten raw. [14] The plant is eaten throughout its range (from Arabia through Iran to India) as a salad, the fruit is also eaten. [47]

Gongronema angolense (N.E.Br.) Bullock

Rwanda, Bugesera District, thick, fleshy roots eaten by children. [48, 118]

Gongronema latifolium Benth.

Nigeria. South West, cultivated for leaves as vegetable. Vs. stomachache. Rubbed on children's joints to make them walk. [28]

Gongronema napalense (Wall.) Decne.

China, decoction of all parts vs. leucorrhoea, blennorrhoea and traumatic injury. Inner bark fibres for ropes, sacks and paper. [141]

Gonostemon gettliffei (R. Pott) P.V. Heath reported as *Stapelia gettliffei* (R. Pott)

Botswana: "ditsebe tsa nkuku" (= granny's ears). [90]

Good luck. [95] Flowers edible. [90]

Graphistemma pictum (Champ. ex Benth.) Benth. & Hook. f. ex Maxim.

China; "tian xing teng".

China, decoction of all parts is used for the treatment of traumatic injury and sore throat. [141]

Hemidesmus indicus (L.) R. Br. ex Schult.

Sanskrit: "Anantamul" (= endless root), "Sariva", Hindi: "Anantamul", "Dudhli". Manipuri: "Anantamul", Marathi: "Anant vel", Tamil: "Nannari", "Sugandipala", Malayalam: "Narunenti", Telugu: "Suganda pala", Kannada: "Sugankha-palada-gidda", "Sogade", Oriya: "onotomulo", Gujarati: "Sariva", "Upalasari". English: "Indian Sarsaparilla" though not related to true Sarsaparilla, *Smilax*. [80]

India. Roots as a popular flavouring for soft drinks and bakery goods. Widely used medicinal as blood purifier, diuretic, antirheumatic, antidiarrhoeal and vs. viper envenomation. [212] Anabolic used vs. venereal diseases, herpes, skin diseases, arthritis, rheumatism, gout, epilepsy, insanity, chronic nervous diseases, abdominal distention, intestinal gas, debility, impotence and turbid urine. [80] Tamil Nadu, leaf paste with neem oil vs. eczema. [131] Tamil Nadu, fresh leaves eaten vs. stomach ache. Root vs. heavy menstrual flow. [107] Root decoction vs. stomach ulcer. [63] Essential oil from the root reported to be 80% 2-hydroxy-4-methoxybenzaldehyde. [212] See also *Decalepis hamiltonii* and *Mondia whitei*.

An official herb in the 1898 British Pharmacopoeia as Hemidesmi Radix. Syrupus Hemidesmi made with 100g bruised *Hemidesmus* root, 700g refined sugar and 500ml distilled water. Boiling water added to the root in a covered vessel and infused for four hours. Strained and allowed to stand until clear. Sugar dissolved with gentle heat. Dose: ½ - 1 fluid drachm (1.85 - 3.7ml) [178] Introduced to England as a medicine in 1831. Alterative, tonic and diuretic. Vs. rheumatism, scrofula, skin diseases and thrush. Boiling drives off the active principle. Said to have cured venereal disease, including syphilis. "Native doctors" used it vs kidney complaints and sore mouths in children. Powdered root dose 30 grains (= 1.94 grammes). [82]

Used vs. snake bite (see also *Cynanchum paniculatum*). A compound was isolated from the root, 2-hydroxy-4-methoxybenzoic acid, which significantly antagonised Russell's viper venom-induced lethal haemorrhagic, coagulant and anticoagulant activity in experimental rodents. [11]

Taste test: The dried root was bought by mail order from Herbalveda [100] as an Ayurvedic herb called "Anantmool - Hemidesmus indicus root". Very strong smell just on opening the packaging but managing a similar trick to the Parma violet, being soft, sweet and delicate but also penetrating and persistent. It has a dusty, candy quality like Parma violet but without the distinctive violet smell. It also has similarities to vanilla. The tea made from 2 grammes of shredded root in one cup has an intense flavour similar to the smell but with liquorice/sarsaparilla notes. I like it but I can imagine some people would hate it. The smell stays with you for quite a while after smelling it let alone drinking it. [me]

Heterostemma alatum Wight & Arn.

Himalayan India, leaves are antiseptic and roots as emetic. [52]

Heterostemma browni Hayata

The aerial parts are used in Taiwanese folk medicine to treat tumours [143, 227] and for expelling dampness (a humour used in Chinese diagnosis for classifying disease) and as a detoxifying agent. [143]

Heterostemma cuspidatum Decne.

Philippines, Tagalog: "Biniguasan", "Buyok-boyok", "San Bartolome".

Leaves made into an ointment for tropical ulcers. [219]

Heterostemma decanense (Talb.) Swarupan. & Mangaly

India, Eastern Ghats: "Pedda Joola Pala".

Stem bark juice is used for stomach ache and gas troubles. [186]

Holostemma ada-kodien Schult.

China: "jiao jian teng". Pakistan: "Tultuli". [14]

China, decoction of all parts induces lactation. [141] Pakistan, flowers and flower buds are eaten as vegetables. Roots medicinal. [14]

Hoodia* subgenus *Trichocaulon

The Hoodias that were once spiny-stemmed Trichocaulons are known collectively as "ngaap" or "ghaap" from the Khoisan "qkhobab". These spp. are preferred to the rest of the Hoodia genus ("khoba", "goba") as they are less slimy. Some names for the old Hoodias reflect this aversion - "baviaan's ghaap" or "bobbejaanghaap" (baboon ghaap), "slang ghaap" (snake ghaap), "jakkalghaap" (jackal ghaap) and "wild ghaap". The ex-*Trichocaulon* Hoodias are called "true ghaap" or "soetghaap" (sweet ghaap). Most of these are edible fresh and raw and have been preserved in sugar by early colonists. Various spp. are sliced, dried and made into a tincture as a stomachic. [24, 95, 241] It appears that all *Trichocaulon* spp. are called "ghaap". [150] The young pods of all spp. are liked for their sweetness. The spp. of Trichocaulons now called *Lavrania* are not eaten as they are very bitter. [119]

Hoodia alstonii (N.E.Br.) Plowes formerly *Trichocaulon alstonii* N.E. Br.

Namibia, South Africa. Edible. [119]

Hoodia currori (Hook.) Decne.

Southern Africa: "Ghaap" [119]. Botswana: "Sekopane", "Seboka". [93]

Namibia, Angola, Botswana, Zimbabwe. Stones are used to remove the spines then the stem is cut into strips and eaten. The stem has a "peculiar pervasively spreading sweet taste which is remarkably persistent" and makes a tasty preserve. The liquorice-like aftertaste improves the flavour of tobacco smoke. Quenches thirst and hunger. Young pods much sought after for their sweetness. Better after a recent rain, sometimes soaked in water before use. [119] Botswana, used for purification after death. Branch tips placed around cattle corrals, along cattle trails and around people to prevent further deaths. Mashed with other plants and water, people wash with it, the water sprinkled on cattle to prevent death, straying and increases the herd and health even in drought. Used in rituals to find the cause of death. With other plants to remove bad luck. [93]

Hoodia flava (N.E.Br.) Plowes formerly *Trichocaulon flavum* N.E. Br.

Afrikaans: "geelghaap" (= yellow ghaap), "soetghaap" (= sweet ghaap). [93]

Namibia, South Africa. Edible. [119] Eaten fresh to suppress appetite and thirst. [93]

Hoodia gordonii (Masson) Sweet ex Decne. never was a *Trichocaulon*.

Afrikaans: "Bitterghaap".

Considered worthless as food or medication south of the Orange River. Peeled juicy, young shoots eaten raw or cooked in the Kalahari. Could not be used in the dry season. Flower honey vs cancer. Prior to publication of the patent as a slimming supplement there was only one reference to this effect in the literature from 1932 with reference to *H. pilifera*. The appetite-reducing effect was discovered by accident while the thirst quenching effect was being studied in mice. [95] Used in popular diet pills, extensively traded. Perhaps sold in greater quantities than exist.

Hoodia officinalis (N.E.Br.) Plowes formerly *Trichocaulon officinale* N.E.Br.

Namibia, South Africa. Edible. [119] In Latin "officina" means "workshop, factory or laboratory". [142] A few years before 1895 dried slices of the plant were imported to America as a remedy for piles. [40]

Hoodia officinalis (N.E. Br.) Plowes **ssp**. ***officinalis*** reported as *Trichocaulon rusticum* N.E. Br.

Used for pulmonary tuberculosis. [95, 241]

Hoodia pilifera (L.f.) Plowes reported as *Trichocaulon piliferum* N.E. Br.

S. Africa, Karoo: "ghaap". [247] The real "ghaap". [150]

Stem eaten as thirst-quencher. Brandy infusion against piles. Bitter, stomachic. [241] Described as "insipid, yet cool and watery taste". [95] A substitute for food and water when both are scarce. "The sweet sap reminds one of liquorice and, when on one occasion thirst compelled me to follow the example of my Hottentot guide, it saved further suffering and removed the pangs of hunger so efficiently that i could not eat anything for a day after having reached the camp." [150] Edible [119]. Karoo, ssp. *pilifera*, young stems eaten to suppress hunger and thirst. Old stems are bitter and poisonous. [247] Edible, pickled in S. Africa, reported in 1796 by Francis Masson as "Guaap", *Stapelia pilifera*. [152] Poisonous to stock animals. [42]

Hoodia pilifera* susp. *pillansii (N.E. Br.) Bruyns reported as *Trichocaulon pillansii* N.E. Br.

Edible and popular. Tincture for pulmonary tuberculosis. [241]

Hoya spp.

East/South East Asia. Latex used against dangerous venomous fish stings. [177] Samoa: "fuesā" Leaf poisonous. Used vs. rib pains. Samoa: "fuefailolo". Ointment vs. pain. [234] Philippines, leaves as dressing for wounds. Philippines, latex, juice of leaves good for wound. Philippines, leaves vs. splenomegaly. Philippines, Sap with sap of dayang dayang boiled as an arrow poison. Solomon Islands, fruit planted in banana patches to give an exceptionally good crop. [188] Possibly the *Hoya guppyi* mentioned as "a good omen foretelling an abundant crop" in the Solomon Islands? Moluccas, young leaves eaten before much latex has accumulated. [249]

Hoya australis R. Br. ex J. Traill

Tongan: "Laumatolu", "Matolu", [244] "Suni", "Sugi", Sugi Vao", "Sugi Tai" [242].

Tonga, leaf infusion internally or externally vs. skin inflammations, infections and rashes. [244] Leaf poisonous, used for treating wounds in many countries. Leaves to treat filariasis, fever, sore throat, pneumonia (with bark), and tuaula uli (Tongan disease). [242] Fiji, vs. cough in children. [188] New Guinea, juice of leaves applied externally vs. burns. Fiji, vs. haemorrhoids, wounds/traumatic injuries, decoction of the leaves as tonic in pulmonary tuberculosis, vs. convulsions, infusion or decoction with other leaves in various mixtures to strengthen mothers after childbirth, vs. related body aches and headaches, post-partum depression and postnatal discharge. Liquid from pressed leaves vs. inflammation of the testicles. Tonga, extract of leaves, leaf infusion internally and externally vs. inflammation. Pounded leaves dipped in water to make lotion vs. rashes. Samoa, leaves mixed with coconut cream applied vs pyoderma sores. Leaf infusion for various internal pains and inflammation. Samoa and Futuna, infusion of leaves mixed with another leaf vs. stomach and intestinal ailments. Plant lethal to cattle and sheep, contains a digitalis-like cardiac glycoside. [249]

Hoya carnosa (L. f.) R. Br.

Pinyin Chinese: qiú lán. [27, 141]

Vietnam, leaves, poultice vs. pyoderma. [249] Leaf used to hasten maturation of anthrax and furuncles. [177] China, vs. encephalitis, pneumonia, and orchitis (var. carnosa). [141] Zachos [249] reported the use of a tincture of the fresh leaves in 86% alcohol vs. diabetes. It should be understood that this tincture was produced by Staufen-Pharma of Göppingen, makers of homoeopathic medicines diluted to nothingness. There might have been some of the spirit of the leaves left in the spirits but nothing of the plant material. [me]

Hoya coriacea Blume

Malaya. Leaves for asthma and cough. [177]

Hoya coronaria Blume

Malay: "takop". [194]

Java, latex with *Capsicum* leaves and salt for digestion. [27, 249] Bitter, emetic. Small doses used to stimulate slow digestion. [177] West Malaysia, Perak, crushed leaf applied to cure cuts and wounds. [194] Indonesia, latex emetic. [249]

Hoya diptera Seem.

Fiji, leaves and bark vs. amoebic dysentery. [249]

Hoya diversifolia Blume

Malaya. Used in hot baths for rheumatism. [177]

Hoya fungii Merr.

China, Pinyin: "hu er cao". [231]

China, all parts vs. fractures, traumatic injuries/wounds. [249]

Hoya griffithii Hook. f.

China: "he qiu teng".

China, stems and leaves vs. traumatic injury, fractures, swellings and coughs. [141]

Hoya imbricata Callery ex Decne.

Philippines. Maturative as *H. carnosa*. Charred leaves mixed with coconut oil and applied to old wounds or varicose ulcers to promote rapid healing. [177]

Hoya kerrii Craib

China: "ao ye qiu lan"

China, leaves vs. swellings and pyoderma. [141]

Hoya lacunosa Blume

China: "lie ban qiu lan".

China, all parts decoction vs. insect bites, to draw out pus and reduce swellings. [141]

Hoya latifolia G. Don

Malay Peninsula/Java. Latex as diuretic and against ascites. [237]

Hoya lyi H. Lév.

China: "xiang hua qiu lan".

China, leaves vs. rheumatoid arthritis and traumatic injury. [141]

Hoya macrophylla (could be either Wight or Blume)

Laos: "Dok pang".

Laos, used for the liver and versus wounds. [109]

Hoya multiflora Blume

Malaysia, pounded leaves, embrocation vs. rheumatism. India, juice as diuretic. [249]

Hoya ovalifolia Wight & Arn. (may be a synonym for *Hoya revoluta*)

Sri Lanka: "Gonika".

Sri Lanka, used vs. fractures. [109]

Hoya pandurata Tsiang

China, leaves vs. cuts, traumatic injuries/wounds and pyoderma. [249]

Hoya parasitica Wall. ex Traill (two different valid names so I'll leave it as quoted in the paper)

Bangladesh, Chittagong Hill Tract, Rakhain tribe: "Palu-lobboi".

Bangladesh, leaf and root used medicinally vs. bronchitis, diabetes, urinary tract disorders, frequent or infrequent urination, kidney disorders, bleeding, rheumatic pain, paralysis. Leaf juice, one teaspoonful of is taken thrice daily, vs. urinary tract disorders, frequent or infrequent urination, and diabetes. Also vs. bronchitis and to maintain normal function in kidneys. Powdered meristems to help blood clotting in wounds and vs rheumatic pain and paralysis. [87] Aerial part used vs. rheumatism. [193] India, leaf paste applied vs. wounds. Leaves pounded in coconut oil, tied to foot vs. elephantiasis. [249]

Hoya pendula Wight & Arn.

India, Malayalam: "nausjera-patsja".

Emetic, to cure poisoning. Many uses in medicinal mixtures with other plants. [66]

Hoya pottsii Traill

Pinyin Chinese: "wiàng kóng", "dāi tōng jiāo", "wèn biāng", "zǎ lī", [250] "san mai qiu lan". [141]

Hainan Island: Invigorant, vs. injury, gynæcological diseases, rheumatoid arthritis, digestive disorders. [250] China, leaves vs. fractures, swellings and for draining pus and promoting new growth of skin. [141]

Hoya pubicalyx Merr.

Philippines, "Hunting ritual". [188]

Hoya rumphii Blume

Java, latex used against dangerous venomous fish stings. Decoction of leaves is cooling in gonorrhoea. [177]

Hoya sussuela Merr.

Malaysia, latex vs. venomous stings (fish? insect?). Indonesia, mixed with Clematis vs. pyoderma. [249]

Hoya upoluensis Rein.

Samoa: "fue magoni".

Leaf poisonous but used to treat swelling. Bark medicinal. [234]

Hoya villosa Costantin

China, Pinyin: "mao qiu lan". [231]

China, leaves vs. wounds/traumatic injuries. [249]

Hoya vitiensis Turrill

Fiji, for garlands, considered poisonous. [188]

Hoya wightii Hook. f.

India, emetic, to cure poisoning. Useful fibre. [249]

Huernia sp.

Protection vs witchcraft. [95]

Huernia concinna N.E. Br

Ethiopia, Zegie Peninsula: "Yelam Tute". [224]

Ethiopia, crushed leaves (?) applied as a dressing to reduce swellings. [202, 224] Also used in the same manner vs. "kusil" an unexplained ailment. [224]

Huernia hystrix N.E. Br. **var**. ***hystrix***

Swaziland: "lozililo", "nomaliliza".

Stem is medicinal for sexual stimulation. [144] Stem infusion as sexual stimulant. Stem and root extract showed anti-inflammatory effects. [202]

Huernia keniensis R.E. Fr.

Kenya, sap to dry wounds. [202]

Huernia pendula E.A. Bruce

Above ground parts used against chest complaints in Bolo Reserve, Eastern Cape, South Africa. [241]

Huernia stapelioides Schltr.

Swaziland: "tililo lomncane".

Medicinal. [144]

Huernia zebrina N.E.Br.

Swaziland: "tililo lomncane".

Medicinal. [144]

Leptadenia arborea (Forssk.) Schweinf.

Petrus Forskål reported [74] in 1775 that, according to my uneducated translation, "Banjani call it Dali & there only the fruit are eaten cooked, Arabs spit it out." [140, me] Sudan, stem and root are used in treating gonorrhoea, swellings, and nose disease. Poultice of branches and leaves are used to treat snakebites. [15]

Leptadenia hastata Decne.

Ethiopia, Kara and Kwego: "surmudo", [225] Kusume: "hayla". [31] Nigeria, Fulani: "yahi", "ya'diyahi", "ya'diawal", "sobotoro". [59] Baskoure, Burkina Faso: "lelongo". [165] Kenya, Pokot: "chesakisyon", Somali: "moroh", Turkana: "ekamong'o". [156] Mali, Maninka, "sarahate". [67]

Ethiopia, leaves and young shoots boiled and eaten throughout the year as a regular vegetable. [225] In Kusume areas preferred (with *Moringa stenopetala*) over other wild edible greens. [31] Senegal, consumed most as a vegetable in the western parts. Gathered from the wild. Rubbery sap (latex?) as a strong salve reputed to be highly effective for healing. Root and leaf used variously vs. rheumatism, belennorhoea, haemorrhoids, eczema and varicose veins. [155] Senegal, bark as anti-inflammatory and antitumour. [22] Nigeria, Fulani women made a comestible/love charm from the buds and flowers (called "pindi") and of the fruits (called "chode"). Leaves, young shoots, flowers as food in soup, beans, etc. Dry fruit fibre as tinder. Leaves, sap vs. venereal diseases. [59] Burkina Faso, leaf, stem bark decoction vs. malaria, diabetes, cough, skin diseases and as a galactagogue and for fertility in women. [165] Kenya, Turkana, Pokot, leaves used as a vegetable. Normally cooked with other vegetables such as cowpea leaves. Turkana, Ng'ikebootok, sap from stems is applied to wounds. [156] Mali, Maninka, leaves food, sap medicine. [67]

Leptadenia pyrotechnica Decne.

Arabic: "markh" (this name is also used of the legume Genista in Sudan, which has a similar general appearance), Teda: "kizzen", [164] "za'aa-sherab elmi", "um dokum al kelb", "titarik", "assabai". Somali: "moroh", "mirug". Hausa: "kalumbo", "namijin yaadiyaa". Tubo: "kalembo", "kezen", "kozeum". Fula: "sabaie". Songhai: "saabe", "sabeil". Tamachek: "anah", "asabai". India and Pakistan: "khip", "khimp", "kheenp", "khimparo", etc. [38] Berber: "titarek", "kizzen", "kanouri". [39] Algerian Sahara, Ahaggar: "enag", "ana". [77] Has many other names due to its wide distribution.

Derives its specific name from the fact that an inextinguishable slow match was made from the plant.[59] According to my internet-boosted [140] lack of Latin, in the original description of "*Cynanchum pyrotechnicum*" [74] by Petrus Forskål and published in 1775, it was named from its use as tinder:

"Often everywhere. The inner parts/pith in the shrub are employed as tinder/touchwood to make fire catch, which rubbing whole/dense firewood kindles. Resin or juice smeared on pox laboriously; astonishingly leading to the restoration of strength. Countryfolk chew the fresh stems, to clean the teeth." [me]

Though, if it is inextinguishable, it seems to me to be a bad choice for thatching huts in Pakistan. [9] Widespread plant used from Central and North Africa through Arabia, Iran, Afghanistan and Pakistan to India. Produces high quality fibres similar to flax and ramie but they do not rot in water. Used for ropes (especially well bucket ropes), textiles, hammocks, carpets, rugs, etc. [38]

Algerian Sahara, Ahaggar, produces fruit (called "asabaï") in March every year independent of the rains. The fruit is the shape of gazelle horns. Edible though the pulp is cottony. [77] Slimy fruit and young twigs eaten by Bedouin. [38] Edible buds once highly appreciated in the United Arab Emirates. [243] Southern Saudi Arabia, some tribes eat the young flowers and fruits. [79] Pods eaten in Rajasthan by Meena tribes. [114] Unripe pods cooked and eaten as a vegetable by the Nara in Sindh. [179] Pods edible but flavourless. [103] Seed eaten by nomads. Raw flowers eaten by shepherds in Niger. Tuberous root eaten as a vegetable. Twigs woven into baskets and waterproofed with the latex to carry water and milk. Young branches as toothbrushes. Wood as fuel and twigs as tinder. [38]

Rajasthan, India, pods cooked as veg or boiled in whey vs. cough, cold, dropsy and rheumatism. Warmed up plant juice as massage to relieve joint pain and dropsy. Taken orally for the same purpose and vs. jaundice. Plant cut into pieces and cooked in oil used as a massage vs. rheumatic pain. [235] Plant vs. burns, wounds. [129] Used vs urine retention. Seed extract as eye lotion. Latex vs. smallpox. Whole plant antihistamine and expectorant. [38] In Ayurveda the herbs is regarded as analgetic, anti-inflammatory, anabolic and laxative. [114] Arabia, infusion of stems and branches as diuretic. [79] Egypt, Bedouin, branches diuretic and to expel bladderstones. [39] Latex vs. ringworm. [179] Mali folk medicine as antispasmodic, anti-inflammatory and antiseptic. [55] The deep root system and abundant branches may help stabilise dunes and reduce wind erosion thus helping against desertification. [168]

Leptadenia reticulata (Retz.) Wight & Arn

India, Sanskrit: "Jivanti" (from "Jiv" = "life", as the plant gives health and vigour), "Svarnajivanti". Hindi: "Dori". [245] Gujurat: "dodishaak". [129] At least four other herbs may be called Jivanti, including Guduuchi, *Tinospora* spp.(Menispermaceae), Kaakoli, *Lilium polyphyllum* (Liliaceae) or *Roscoea procera* (Zingiberaceae), Medaa, *Polygonatum* spp. (Asparagaceae) and Vrkshaadani, *Acampe papillosa* (Orchidaceae) or *Dendrophthoe falcata* (Loranthaceae). [129]

Used since 4500 BC. Whole plant vs. general debility, involuntary seminal discharge, prostatitis, mouth ulcers and as a stimulant, abortifacient tonic, restorative, bactericidal, antifebrifuge and wound healer. Roots used in many Ayurvedic formulations for ear, nose and skin ailments. The herb is in great demand. [208] Root, leaf and fruit used in Indian herbal medicine as a galactogogue, vasodilator and anabolic.[184] In Ayurveda as an immune booster, rejuvenator and prescribed to increase longevity. [81] Rajasthan, India, paste of leaves and seeds vs. gangrene. [113] One of the Rasayana herbs, alleviating symptoms of ageing and promoting vitality. One of the ten "Jivaniya Gana", "Vitalising Group". Leaf, root, whole plant used. Stimulant, restorative. Leaves, roots vs. skin affections such as ringworm, wounds, nose and ear disorders, asthma, cough, habitual miscarriage. Also used in veterinary medicine. An alcoholic extract of the aerial parts was shown to have LD50 > 1000mg/kg injected intraperitoneally in mice. Dose root powder: 1-3g. [245] Dose root powder 3-6g. [129]

Margaretta rosea Oliv. = *Margaretta whytei* K. Schum.

Southern Malawi: "gwapi" (= duiker, from the horn-like shape of the seed pods, see also *Ectadiopsis oblongifolia*), "katulutulu", "katunga", "mtibulo", "napose", "nsangale". Tanzania, Zigua: "gosi". [189]

Southern Malawi, widely used as a potency medicine for men. The sweet root chewed or infusion drunk to produce semen. Also vs. gonorrhoea. Dried leaves as a wash for good luck. [160] Tanzania, Zigua, male aphrodisiac, leaves boiled and the water drunk. [189]

Metaplexis japonica (Thunb.) Makino

China: "luo mo". [141] Japan: "gagaimo". [158] Korea: "bakjugari". [109]

China, stems and roots vs. traumatic injury, snake bites, impotence and infantile malnutrition due to intestinal parasites. [141] China, leaves eaten raw or cooked. Cultivated or collected from the wild. Used medicinally. [218] Japan, edible leaves, young fruit and tubers. [70] Seeds and leaves as a tonic medicine called "rammashi". [158] Korea, used as a tonic and to stop bleeding. [109]

Microloma spp.

South Africa, Namibia: "bokhoringkies", kannetjies".

South Africa, Namibia, fruit eaten fresh or cooked. [89]

Mondia ecornuta (N.E.Br.) Bullock

Tanzania, Kihehe: "mwendo", "wendi", Kipogoro: "mwende".

Root extracts vs. malaria, pinworms and as an antispasmodic for stomach and intestines. Macerated "skin" of the root vs. bilharzia parasites. [238]

Mondia whitei (Hook. f.) Skeels formerly *Chlorocodon whiteii* Hook. f.

Zulu: "uMondi", from which the generic name derives. [238] Kenya: "muombo", ogombo". [122] Kenya, Kikuyu: "mũhũkũũra". [136] Tanzania, Swahili: "mbombongazi". [132] Cameroon: "nkang bongo", "nkang si", "dimté" and "nga'lomsi". [171] Swaziland: "umondi". [144]

Thickened woody roots, not tubers. [238] Root used by the Zulu to make a beverage like ginger beer. The tuber is used as food in Kenya [122] and as a flavour for porridge, tea and herbal medicine in Eastern, Central and Southern Africa. [163] Root powder as a spice in Bamileke sauces in Cameroon. [171] In West Africa, the roots are used to make an energizing drink for wedding parties when the roots are brewed in alcohol. [211]

Apart from many other medicinal applications [135] it is used as far apart as Cameroon, Kenya and Malawi as an aphrodisiac. At Entebbe in Uganda the Baganda chew one small, peeled root vs. impotence and lack of appetite. [86] In Bulamogi, Uganda they also drink the powder on (sic) tea or chew the root vs. premature ejaculation and abdominal pain. [223] In Tanzania used as a cure vs gonorrhoea, causes profuse urination. [132] In Cameroon used vs. sexual weakness. One teaspoonful of root powder once per day. [171] Swaziland, roots for stress, tension, indigestion & constipation. Aphrodisiac. Bark and leaves help labour pains, for easy birth and a healthy child. [144] Zulu, stomachic. [238] South Africa, roots chewed to treat stress and tension. Roots still in much demand but mainly obtained from the wild. [135] Southern Malawi, "Just chew it for failure of the man in the house." Powdered, dried roots for potency and vs. infertility, headache, diarrhoea, stomach problems and gonorrhoea. [160]

Frequently cultivated by the Kikuyu because its sweet-scented roots were in great demand for making a magic powder and for sale to the Maasai tribe in large quantities. Propagated by pieces of root. Sole ingredient of rũthuko magic powder and included in other magic powders such as mũguco. Rũthuko powder attracts anything its possessor wishes to attract, e.g. cattle. When the root is dug root beer and finger millet are poured at the foot of the plant as an offering. [136] Kenya, Kikuyu, Luhya, Nandi, Luo, the fleshy bark of the narrow roots is eaten raw or occasionally in the dried state for its good taste. Luhya as an appetizer. Luhya, Kikuyu, to freshen the mouth. Kikuyu, for pleasure. The root tastes rather hot and bitter at first then slightly sweet later. It leaves a persistent spicy taste in the mouth which is easily recognized. The root may be dried, stored and eaten when desired. Maasai, roots used for gonorrhoea and said to cause profuse urination. Luhya, Kikuyu, roots chewed as an aphrodisiac and a cure for impotence. Kikuyu, for women to contract the uterus after delivery. Luhya, roots chewed for good luck before setting out to perform a difficult task. [156]

The characteristic unusual odour of the root is due to 2-hydroxy-4-methoxybenzaldehyde [163] (para-methoxysalicylaldehyde, a positional isomer of vanillin, see also *Decalepis hamiltonii* and *Hemidesmus indicus*) giving 0.2 - 0.5% by steam distillation. [241] This compound is a tyrosinase inhibitor [163] and kills mosquito larvae. [148] The aphrodisiac effect may be due to the stimulation of nitric oxide synthase and raised cGMP, the same system affected by Viagra. [153] Another possibility is that the tyrosinase inhibition increases levels of L-dopa and dopamine.

Seed is used as an arrow poison. A glucoside in the root kills frogs. [241]

Taste notes: Roots taken from a home-grown *Mondia whitei* after 9 months growth from bought seed [197], started under fluorescents but mostly stood on a windowsill. The plant had filled a 25cm pot with many roots and kept reaching out to snare the light fixture on the ceiling. About a dozen roots were about 5mm thick and up to 25cm long, about the consistency of a slightly woody carrot. A tea made from 7 grammes of the fresh root chopped finely had a powerful and distinct taste very similar to *Hemidesmus* tea. The taste was still there after refilling the cup three times. Warm and fragrant rather than spicy hot, the taste did linger for a long time after drinking the tea. Delicious. [me]

Morrenia spp.

Local Spanish: "Doca", used of all fruit of *Morrenia* spp. and other similar edible fruit of *Araujia* and *Funastrum*.

South America, Gran Chaco, fruits of *Morrenia brachystephana* Griseb., *Morrenia herzogii* Schltr., *Morrenia stormiana* (Morong) Malme (also reported as *Morrenia schulziana*), *Morrenia stuckertiana* (Kurtz ex Heger) Malme (as *Morrenia grandiflora*) and *Morrenia variegata* (Griseb.) T. Mey. all eaten locally. *Morrenia variegata* flowers, young stalks, leaves, young seeds and old stems eaten as with *Morrenia odorata*, but *Morrenia variegata* is both rare and of limited distribution. [26]

Morrenia odorata (Hook. & Arn.) Lindl.

Guarani: "guaikuru rembi'u" (= food of the local Guaycuru people of Gran Chaco). Local Spanish: "Doca", "Tasi", "Paraguayita".

South Paraguay and North Argentina, Gran Chaco region. Also found in Bolivia, South Brazil, and Uruguay. One American example just to remind us that there are many useful Asclepiads there. This widespread and abundant liana figures in many local stories, myths and riddles and is regarded as very nutritious. The plant grows to 5 metres and contains abundant latex. Though considered a wild plant it is protected, encouraged and sometimes cultivated. In some areas the plant thrives through 6-8 months of drought every year.

Flower: Scented, eaten raw on their own or boiled and oiled. Flowers and young leaves may be mashed in a mortar and salted.

Fruit: Very popular among settlers and the indigenous peoples. Often sold as a jam. The fruit is high in vitamin C (over 40mg/100g) and calcium. 10-14cm long, 4-9cm wide. Immature fruit eaten raw (while the seeds and cotton fluff are still tender and moist) or boiled. May be mashed with chili, salt and *Opuntia chakensis* flesh. Older fruit deseeded, roasted and dried for later use. Latex can be slightly irritating to the mouth if large quantities of raw fruit are eaten. [26] This is probably due to the presence of protein-hydrolysing enzymes common in the latex of Asclepiads, *Morrenia odorata* latex has the peptidase morrenain o II. [51] Pineapple, papaya and fig contain similar enzymes (bromelain, papain and ficin, respectively) which can cause irritation, especially when the mouth is already chafed. The latex is used for curdling milk.

Young leaves are eaten raw or boiled and oiled. Leaves, soft young stems, flowers and apical shoots often eaten together, sometimes dipped in a sauce of wild chili and salt. At the height of the dry season the older, thick stems may be peeled, boiled until soft and served in oil.

Used medicinally vs. warts, toothache, snakebites and lack of milk. Can be poisonous to cattle. [26]

Myriopteron extensum (Wight & Arn.) K. Schum.

China: "chi guo teng".

China, roots vs. pulmonary tuberculosis and cough. [141]

Orbea carnosa* ssp. *keithii (R.A. Dyer) Bruyns

Swaziland. Whole plant said to be edible, below ground parts are less bitter. Medicinal. [144]

Orbea decaisneana (Lem.) Bruyns reported as *Caralluma decaisneana* N.E. Br.

Algerian Sahara, Ahaggar: "Taïberou". [77]

Charm vs. evil. Supposed to be poisonous. [59] Senegal, extract of the aerial parts vs. mental problems and epilepsy. Plant sap is applied to teeth with caries but considered toxic. Mali, dried powdered stems as fish poison. Niger, stems macerated in water and used as bait for guinea fowl. Algeria, nomads poison bait vs. jackals. Sometimes used as criminal poison. [203] Algerian Sahara, Ahaggar, reported as *Caralluma venenosa* Maire (botanical Latin = the poisonous Karallamu), effective poison for killing humans. Only known to the nomads. Just tasting a little bit of the juice is sufficient to kill rapidly. [77] Fish poison and for poisoning bait in hunting birds and small mammals. [79]

Orbea deflersiana (Lavranos) Bruyns

Yemen: "urza".

Whole plant vs. diabetes, wounds. [12]

Orbea dummeri (N.E. Br.) Bruyns formerly *Stapelia dummeri* N.E.Br.

Uganda, Baganda: "Kaulira". [32]

Chewed by father while cursing son. When making up each holds one end of a stem and cuts it. Stem chewed vs chest pains or decoction with fresh milk drunk. [159] Purgative. [241] Juice used medicinally vs. earache. [32] Fresh plant sap is squeezed on wounds to heal them. [203]

Orbea gerstneri* ssp. *gerstneri (Letty) Bruyns

Swaziland. Medicinal. [144]

Orbea knobelii (E.Phillips) Bruyns reported as *Caralluma krobelii*

≠Kade San, G//ana: "dadaba".

Stalk as a supplementary food. [138]

Orbea lugardii (N.E.Br.) Bruyns

S. Africa, stems eaten as a vegetable, tasting like lettuce. [211]

Orbea lutea* ssp *lutea (N.E.Br.) Bruyns

South Africa, used vs rabies. [95] Roots and young stems are eaten. [211] Namibia, Owambo, extract of entire plant vs. rabies. Namibia, Khu Bushmen slightly roast stems before eating but as famine food. [203]

Orbea maculata (N.E.Br.) L.C. Leach

S. Africa, stems eaten as a vegetable, tasting like lettuce. [211]

Orbea namaquensis (N.E.Br.) L.C. Leach

Namaqualand, eaten occasionally but very bitter. [211]

Orbea paradoxa (Verd.) L.C. Leach

Swaziland. Medicinal. [144]

Orbea rogersii (L. Bolus) Bruyns reported as *Caralluma rogersii* (L.Bolus) E.A. Bruce & R.A. Dyer

Botswana, San: "dadaba". [93]

Body wash for good luck. [93, 95] Swaziland. Medicinal. [144] Botswana, boiled until water creamy white then drunk vs. venereal disease. Warm but don't boil, water given to help delayed labour or afterbirth. Throw plant away after success. Heat on red-hot coals and apply vs. toothache. [93]

Orbea semota (N.E. Br.) L.C. Leach reported as *Stapelia semota* N.E. Br.

Used vs. wounds, ulcers. [95] Tanzania, juice from pounded stems vs. wounds, ulcers. [203]

Orbea ubomboensis (I. Verd.) Bruyns

Swaziland. Medicinal. [144]

Orthanthera jasminiflora (Decne.) N.E. Br. ex Schinz

Botswana: "mushishane", "nqe' di", "serapologwane". [89]

Botswana, nectar sucked from sweet-smelling flowers. [90] Fruit, "lekatane jaserapologwane", 10-13cm long, edible, especially the skin. [89]

Orthanthera viminea Wight

Pakistan: "Khip", "Chapkia", "Mahur-Ghas".

Pakistan, flower buds eaten as vegetable. [14] Uttar Pradesh, flower buds eaten raw or cooked. Fibres made into rope. [217]

Oxystelma esculentum (L. f.) Sm.

Hindi: "Dudhialata", "Dudhi-ki-bel". Marathi: "Dudhani". Telugu: "Dudhi pala". Nara region, Sindh: "Phulli". [179] China: "jian huai teng". [141] Yunnan, Yi: "Yanglaguo", Yunnan, Bulang: "Gevei". [120]

Lance-like follicles are 3-6 cm long, and are edible. Flowers and fruit eaten in Sindh. [179] The plant is a good source of famine food in India. [80] China, Yunnan, fruit frequently eaten with seasoning or salt. [120] Indochina used as a gargle. Latex as dressing for ulcers. Root vs jaundice. Sap with *Styrax benzoin*, *Citrus aurantifolia* and *Santalum album* juice drunk vs cholera. The bark mixed with vinegar and spices is smeared on the body. [177] Herb used in Sindh as antiseptic, depurative and galactogogue. Latex antiperiodic. Root used vs. jaundice. Decoction as mouthwash vs. ulcers and sore throat. Whole plant decoction or milky juice used vs. ulcers. [179] China, decoctions of all parts vs. cancer, menstrual disorders and traumatic injury. [141]

Pachycarpus spp.

Sometimes mistaken for edible Asclepiad tubers in S. Africa with poisonous consequences. [241]

Pachycarpus campanulatus (Harv.) N.E.Br.

Swaziland. Roots are a famine food for Zulus. [144]

Pachycarpus concolor E.Mey.

Swaziland. A vegetable but bitter. [144]

Pachycarpus grantii (Oliv.) Bullock

Congo, Kimbulu: "khambalau".

Root soaked in water or crushed as a purgative for young stock animals. [44]

Pachycarpus lineolatus (Decne.) Bullock

Southern Malawi: "Mkuta". [160] Hausa: "rizgar-kurege" (= ground squirrel Hausa potato tuber). [59]

Dried, powdered root, one teaspoonful taken in tea or porridge as a potency medicine. Bitter taste unlike *Mondia* and *Margaretta*. [160] Sometimes eaten like cassava, pounded and boiled or even uncooked. Roots stomachic, weak cold infusion for new born infants. [59]

Pachycarpus rigidus E. Mey.

Lesotho, edible. [65]

Pachycarpus spurius (N.E. Br.) Bullock

Tanzania, tuber eaten by men to improve fertility. Pounded leaves mixed with water for provoking milk. Stems for twine and rope. [175]

Pachypodium bispinosum A. DC.

Apocynaceae, Apocynoideae, not an Asclepiad but shares the name "Kambaroo", "Kambroo" with *Brachystelma* and *Fockea* tubers.

Edible tuber, Karoo, S. Africa. [248] Other parts may be very poisonous [me].

Pachypodium succulentum Steud.

Apocynaceae, Apocynoideae, not an Asclepiad but shares the name of "Kambaroo", "Kambroo" with *Brachystelma* and *Fockea* tubers.

Edible tuber, Karoo, S. Africa. [248] Other parts may be very poisonous [me]. Karoo, piece of root soaked in lukewarm water then the bitter infusion drunk vs. stomach ulcers. [247]

Pectinaria articulata Haw. reported as *Stapelia articulata*

South Africa. Reported as eaten raw by Khoi-khoi (Hottentots in the source) by Francis Masson in 1796. [152] Eaten by native Africans and as pickles by settlers. [241] S. Africa, Roggeveld, reported in 1795 as *Stapelia articulata repens*, eaten by Khoi-khoi and pickled like cucumbers by the colonists.[230] Reported as still used as pickles by farmers in Roggeveld in 1932. [150]

Pectinaria asperiflora N.E. Br. possibly *Pectinaria articulata* ssp. *asperiflora* (N.E.Br.) Bruyns

South Africa. Eaten as pickles. [241] Reported to be used as pickles by farmers in the Karoo of Laingsburg in 1932. [150]

Pectinaria maughanii (R.A.Dyer) Bruyns

S. Africa: "ghaap".

Eaten as a vegetable and is an appetite suppressant. [24]

Pentarrhinum abyssinicum Decne.

Kenya, roots vs. stomach-ache. [204]

Pentarrhinum insipidum E.Mey

East Kenya, Samburu district: "Lkisuchie" [167], Suiei Dorobo: "lngarboi" [7], Maa: "orkorirr", Samburu: "lng'arboi", "ng'arboi", Somali: "ayab". [156] S. Africa, Afrikaans: "donkieperske", "hondepisbossie", "opklim", "wildekomkommer", Ndebele: "aulana", "furana", Ndebele: "umulugwe", Sotho: "leswa". [211] Qkhung San: "nqwashu", "nqoshu". [91]

As far as I know this plant is not tuberous, xerophytic or succulent but I have included it as it is "an important wild vegetable" [211] and I've typed (and cut and pasted) it out now. There are plenty of others in the family with edible leaves that I have not included. East Kenya: fruit eaten raw in rainy and early dry season. [7] Hot leaf decoction vs. anaplasmosis, an infection by bacteria related to *Rickettsia*. [167] Leaves fatal when fed to cattle. [31] Kenya, Maasai, leaves are used as a vegetable and said to be tasty. The ripe fruits are edible and liked by children and women. [156] Young pod eaten by Khoi-khoi. Pedi, Northern Sotho, young tender leaf and tendril as a pot herb. [241] Leaves, stem and fruit widely eaten throughout Africa. Leaves sometimes pounded with leaves or tubers of other species and eaten as a salad. Harvested young fruit can last up to three weeks. Young fruit can be eaten as a vegetable or preserved like gherkins. Reported to have a crisp, nutty and slightly peppery taste. The vigorously-growing plant has potential as a crop and experiments are being conducted. Boiled leaves and young fruit have the same taste and texture as asparagus. Tanzania, used vs. boils. [204, 211] Tanzania, Sukuma, leaves as poultice vs. boils, sores. Roots vs. sores. [189]

Pentarrhinum somaliense (N.E.Br.) Liede

Ethiopia, fruits eaten by all age groups. Extract to ease childbirth and vs. abdominal pains. [204]

Pentasachme caudatum Wall. ex Wight

China: "shi luo mo".

China, all parts vs. hepatitis, nephritis, conjunctivitis, sore throat, and bronchitis. [141]

Pergularia daemia (Forssk.) Chiov.

Swaziland: "umdzandzabuka". [144] ≠Kade San, G//ana: "murahari". [138] Botswana: "loshwe". [91] Nigeria, Igbo: "Utazi", Yoruba: "teji".[170] Kenya, Kikuyu: "ka-Riaria". [76] Ethiopia, Tigrinia: "tennab", Kaffa: "koroda", Arabic: "dhraoba", Somali: "corongoiai". [78] India, Sanskrit: "Uttamarani", "Kurutakah", "Visanika", "Kakajangha". [80] Tamil Nadu: "veeliparuthi". [63] Sri Lanka: "madihagu". [109]

Another representative of the "other" Asclepiads with an even wider range than *Pentarrhinum*. Leaf as pot herb and emetic, various medicinal uses. [241] Swaziland, roots for arthritis, asthma & venereal disease. Blood pressure. [144] Kalahari, stalk and leaf rarely as food for the ≠Kade San. [138] Nigeria, flavour for soups and yam porridge. Leaf water extract anthelmintic and expectorant vs. cough, catarrh. Stem and root bark extract vs. fever and diarrhoea in infants. [170] Kenya, Mbeere division, Embu district: young, hollow stems cooked as a vegetable in times of famine. Leaves also eaten. [76] Ethiopia, root as food. [78] Root inserted into cut vs. snakebite. [224] Leaves eaten cooked in southern Africa. [91] Arabia, loosens hair in tanning process for hides. Latex can cause pain and inflammation on contact with skin or eyes, stomach cramps and diarrhoea when taken internally. [79] India, root used in folk medicine vs. liver disease. [80] India, Tamil Nadu, the paste of the leaf with black pepper is applied on forehead for the relief of headache. The decoction of the leaves is used in treatment of asthma and snake bite. [14] Leaf paste for lactation. [63] Sri Lanka, used as purgative and vs. asthma, diarrhoea, worms, catarrh, sore eyes, rheumatic swellings, snakebite and fish poisoning. [109]

Periploca aphylla Decne.

Arabic: "handabub". [79] Pakistan: "bata" [8], "barrarra", "barre" [217].

Usually leafless and succulent. Pakistan, flower buds sometimes eaten. Sindh, latex medicinal. Fibres for ropes. [14] United Arab Emirates, flower buds edible. Commonly grazed by goats. Oman, placed in pools then removed to take the leeches out. [243] Arabia, plant extract or plant crushed and applied vs. skin disorders and to reduce swellings and reduce pain from swellings. Pakistan, Baluchistan, bark as purgative, latex vs. skin tumours and swellings. [79] Pakistan, Salt Range, fragrant flowers eaten, taste like raisins. Powdered branches and flowers, 2-4g twice daily vs. constipation and stomach ulcer. Latex vs. skin infections, tumours and swellings. 500g branches boiled in 2 lites of water for two hours, 2 teaspoonfuls daily vs. constipation. [8] Flower buds sweet, eaten raw or cooked as a vegetable. [217]

Pervillaea venenata (Baill.) Klack. reported as ***Menabea venenata*** Baill.

Madagascar: "kisompavavy" (= female kisompa). [94]

Madagascar, arrow poison and formerly used as an ordeal poison in certain ceremonies. [188] Root used as ordeal poison [237] in Menabé and to the north where the more usual ordeal poison, "kisompa" (*Cerbera manghas* L., Apocynaceae), does not grow. [94]

Quaqua incarnata (L.f.) Bruyns

S. Africa: "ghaap". [95]

S. Africa, Piketberg, reported in 1795 as *Stapelia incarnata*, eaten by Khoi-khoi, after peeling off the edges and prickles.[230] Stems in brandy vs. stomach ailments and convulsions. [95]

Quaqua mammillaris (L.) Bruyns

Fresh stems vs. peptic ulcers, hangovers and drunkenness. A small piece of stem is sufficient to suppress hunger and thirst for a day. Can be eaten as a fresh vegetable, but not by pregnant women. [205]

Raphionacme sp.

Zulu, vs. scrofula. [241] Southern Malawi, "Mwanawamphepo", used vs. difficult childbirth. [160]

Raphionacme arabica A.G. Mill. & Biagi

Arabian Peninsula, tubers eaten, as snack food by herders. [79]

Raphionacme brownii Scott-Elliot

Fulani "ndafe", "fugore". Guinea, Bambara "fié" see *Raphionacme splendens*.

Sometimes large and turnip-like tuber with milky juice. Eaten by Fulani and Mandingo both raw and roasted. Barth writes that it is very refreshing and nutritious. "A man may travel all day with nothing to eat but this root." Causes colic if too much is eaten. [59] Bullock thought the last comment was possibly due to confusion with *Raphionacme jurensis* which shares some of its range with *R. brownii*. [43] Albers and Meve now consider these two to be synonymous. [215]

Raphionacme burkei N.E. Br.

!Kung San, Nyae Nyae: "gwe". !Ko, //Gana, /Gwi, Nharo: "bi". [151] "!gi !gi", "gwe". [137]

Edible. [151] A water root for the !Kung. [137]

Raphionacme galpinii Schltr.

Swaziland: "indzema", "lubhuku".

Swaziland, edible fruit & roots. Tuber used to treat rashes. [144]

Raphionacme hirsuta (E. Mey.) R.A. Dyer

Swaziland: "indzema". [144] !Kung: "n/won/washe". [137]

Tuber used by the Manyika as a magic charm to make babies similarly large and fat. Large tuber used for brewing an intoxicating beer. The beer is called "ghali" in Basutoland (now the Kingdom of Lesotho). *R. divaricata* Harv. was studied and nothing to explain the intoxication was found. Watt studied *R. pupurea* Harv. He found that the fresh tuber fermented at room temperature and that water and alcohol extracts of fresh or dried tubers depressed the central nervous system in cats. The effect could last four days and an overdose could kill. These two species are "now sunk in *Raphionacme hirsuta* R.A. Dyer" noted Watt, with, perhaps, an implied disapproval. [241] Tropicos® now gives these as three separate species [231] but stapeliads.info lumps them. [215] Swaziland, edible fruit & tubers. Aids fermentation. Maybe poisonous. Medicinal for chronic ulcers. [144] Water root for the !Kung. [137]

Raphionacme procumbens Schltr.

Swaziland: "imfuce", "indzema".

Edible fruit. Medicinal. [144]

***Raphionacme* splendens** Schltr. reported as *Brachystelma bingeri* A. Chev. and *Raphionacme daronii* Berhaut

Fulani: "nda-fegué". Guinea, Bambara: "fié-hié", "fié-gué", "figué" but also simply "fié", the same name as *Raphionacme brownii* and *Lagenaria*, the Bottle Gourd. Mandingo: "fikongo". Diola: "hiama". [59]

Tuber 2-3 in in diameter. White flesh exuding latex when cut. [59] Tuber eaten raw as a staple in times of food emergency. Children eat the tubers at all times. [68] Refreshing rather than nutritious, mostly carbohydrate. Eaten raw when very fresh, after removing the more milky and resinous outer layer. Europeans have used it as a substitute for boiled turnips. Several other S. African and Abyssinian spp. have edible tubers. [59]

Raphionacme utilis N.E. Br. & Stapf

Angola, tuber source of ecanda rubber, also called bitinga or marianga rubber. [241] Produces a very good rubber. Tubers up to 15 pounds (7 kilos). Due to the variability of the plant, it was thought that more than one species might be involved. [18] Due to rapid coagulation on exposure to air the plants could not be tapped in the same way as many other rubber sources. The tuber was harvested and crushed before treatment to extract the latex. [134, 216] Attempts at commercial cultivation were a complete failure due to the slow growth rate of the plant. [121]

Raphionacme welwitschii Schltr. & Rendle

Dug for food by chimpanzees using tools at Ugalla, Tanzania. In the observed case a 49cm stick was used as the digging tool. Other tubers, including species of Fabaceae, Rubiaceae, Smilacaceae and Taccaceae, are also excavated and eaten by chimpanzees there. [101]

Rhytidocaulon fulleri Lavranos & Mortimer

Arabian Peninsula, shoots eaten, as snack food by herders. [79]

Rhytidocaulon macrolobum Lavranos

Yemen, edible. [190]

Rhytidocaulon paradoxum P.R.O. Bally

Somalia, once collected for food. [124]

Rhytidocaulon tortum (N.E.Br.) M.G.Gilbert

Yemen: "quaran".

Whole plant vs. wound, allergy. [12] Edible. [190]

Riocreuxia burchellii K. Schum. reported as *Riocreuxia polyantha* Schltr. and maybe = *Riocreuxia profusa* N.E. Br

Tanzania root decoction vs. ascariasis. Root decoction, together with sap of *Stephania abyssinica* vs. pinworm. [206] Lesotho, edible. [65]

Riocreuxia picta Schltr.

Swaziland: "umdzandzabuka wemahlatsi"

Edible leaves eaten as spinach. [144]

Riocreuxia profusa N.E. Br maybe = *Riocreuxia burchellii*

Swaziland: "umshunko".

Edible leaves eaten as spinach. [144] Tanzania, leaf eaten by chimpanzees. [67]

Riocreuxia torulosa Decne.

Zulu: "Uqwapa". [76] "Ugwapa". [99]

Zululand (Ubombo district): leaves eaten as famine food. [76]

Sarcolobus globosus Wall

Malaya: "Kambing-Kambing".

A pleasant-tasting sweet candy is made from the peels of the fruits. Soaked first in seawater, afterwards kept for a few days in fresh water. Later on, cooked in syrup. The peel is also eaten in Sambal as a dessert or side dish. [237] Seeds toxic, used for killing wild animals. Fresh coconut water is the antidote in humans. Leaves with *Aleurites* nut made into a paste for rubbing joints affected by rheumatism or Dengue fever. [177]

Sarcolobus narcoticus Miq. possibly lumped in *Sarcolobus banksii* Schult. in Roem. & Schult.

Malay Archipelago. Used by the Javanese to kill wild dogs and tigers. [237]

Sarcolobus spanoghei Miq. possibly lumped in *Sarcolobus banksii* Schult. in Roem. & Schult.

Malaya, Indonesia: "Peler-Kambing", "Lakambing", "Gonggom".

Root and inner bark used to kill wild dogs, pigs and tigers. [237]

Sarcostemma acidum (Roxb.) Voigt

India, Rajasthan: "Somalatha", [236] Sanskrit, Marathi: "Soma", Hindi, Bengali: "somalata", Telugu: "kondapala", Tamil: "sommam", Malayayam: "somam". [162] Telegu: "tiga tshomoodoo", Bengali: "bramee", "shomluta". [66] Andhra Pradesh: "Atukudu tiga". [187] China: "rou shan hu" (= "flesh coral"). [141]

Stem bark to increase milk in cattle. [236] "The plant yields a quantity of milky juice but of such a mild nature that travellers will often suck the tender shoots to allay thirst." [66] Used medicinally in India vs. rabies, snakebite and other ailments. [109] Andhra Pradesh, 20-25 leaves chewed with 3-4 pieces rock salt, daily for 5 days vs. coughs. [187] Reported to be used in 1874 in modern Vedic rituals on the Coromandel coast as a substitute for the ancient "Soma". [172] "Some species" of *Sarcostemma* are now the most commonly used in Soma sacrifice rituals. [126, 214] The original identity of Soma is disputed but the best argument is for *Ephedra* and was made by Falk. The twiggy branches of Himalayan *Ephedra* have some resemblance to *Sarcostemma* and contain the powerful amphetamine-related stimulant ephedrine. [69]

Sarcostemma intermedium Decne.

India, Rajasthan: "hamerbel". [113] India, Tamil Nadu: "kodi kalli". [131] Andhra Pradesh: "Kondapaala", "Pandirijamudu". [123]

Rajasthan, root paste as antidote. Poultice of whole plant for bone fractures. [113] Tamil Nadu, 5-6 drops of latex applied to insect stings. [131] Andhra Pradesh, stem ground with latex, applied vs. snake bite. [123]

Sarcostemma secamone (L.) Bennett

India: "dudhialata" (milk vine).

India, used vs. jaundice, sore throat and mouth infections. [109]

Sarcostemma viminale (L.) R. Br.

Burkina Faso, Baskoure: "wobg-gnaodo". [165] S. Africa, Zulu: "Mabelebele" [76]. Swaziland: "emaphoti", "ingotjwa", "liphoti", "makhombo makhulu", "umphangalehaya". [144] Kenyan Masai: "Ol Dewo" [32], Chamus: "l-oilei". Kenya, Maa: "ol'loilei", "endepeu", Pokot: "cheporewo", "mosolion", Samburu: "loiyei", Kipsigis: "ngolinyit", "ngololiet", Luo: "ohao", Turkana: "eligoi", "egis". [156] Arabic: "bidol". [79]

Kenya, Chamus, root and stem boiled as a general tonic. Warriors and elders take it in soup, children in milk. [96] Masai use the stem for thirst relief. [32] Turkana, Pokot, Maasai, Luo, Samburu, Somali, Boran, the young soft stems are chewed and may be swallowed. In older stems, only the juicy extract is swallowed. Stems have an acid taste. [156] Zulus eat raw stem and small amounts cooked with food as a relish. Fruit said to be edible. Abundant latex as a fish poison. In some places it is eaten by stock, in others it is untouched, toxicity to livestock varies according to the location. [127, 144, 241] Zululand (Ubombo district): stems and fruit eaten. Natal: unspecified portion of plant reported commonly eaten by women and children. [76] Arabia, sour peeled stem eaten to cleanse stomach. General tonic. [79]

Africa, many medicinal uses including increasing the production of milk in women and cows. [59] Burkina Faso, branch decoction vs. vertigo, hernia, skin diseases and as a vermifuge. [165] Swaziland, stem vs. heartburn, ulcers, septic sores, venereal disease. Stems and pods stimulate milk in nursing mothers. [144]

South Africa, aerial part used vs. wounds, crushed and applied directly. Very effective vs. maggots. [147] Kenya, Maasai, roots are used for the treatment of gonorrhoea. [156]

Sarcostemma viminale* ssp. *brunonianum (Wight & Arn.) P.I. Forst.

Sri Lanka: "muwakeeriya".

Sri Lanka, used vs. fractures, anorexia, dropsy, diarrhoea, haemorrhoids. Used to promote production of urine, bile and milk (reported as *Sarcostemma brunonianum*). [109]

Schizoglossum spp.

The tubers of the following spp. are all reported to be edible; *S. araneiferum* Schltr. (= *Aspidoglossum a.* (Schltr.) Kupicha), *S. atropurpureum* E. Mey., *S. biflorum* (E. Mey.) Schltr., *S. interruptum* (E. Mey.) Schltr., *S. lamellatum* Schltr. (= *Aspidoglossum l.* (Schltr.) Kupicha), *S. linifolium* Schltr. and *S. pulchellum* Schltr. (= *Aspidoglossum woodii* (Schltr.) Kupicha). [241] *Aspidoglossum araneiferum* Lesotho, edible. *S. atropurpureum* ssp. *virens* (E. Mey.) Kupicha (= *Cynanchum virens* (E. Mey.) D. Dietr.) edible. [65] Lesotho, Tsehlanyane and Bokong: *S. biflorum* also medicinal, "mputsoe". [139]

Schizoglossum atropurpureum* ssp. *atropurpureum E.Mey.

Swaziland: "ishongwe". Lesotho, Tsehlanyane and Bokong: "sehoete-moru". [139]

Swaziland: Edible roots. [144] Lesotho, Tsehlanyane and Bokong: medicinal. [139]

Schizoglossum cordifolium E.Mey.

Swaziland: "sicadze".

Edible roots. [144]

Schizoglossum shirense N.E. Br.

Tanzania, Nyamwezi: "Uzara".

Whole plant used vs. dysentery, as a stomachic and sexual stimulant. [32]

Schlechterella abyssinica (Chiov.) Venter & R.L.Verh. was formerly *Raphionacme abyssinica* Chiov.

Ethiopia, Somali National Region State: "Dhoonbir". This name is shared with other climbers with edible tubers such as *Cibirhiza spiculata*.

Implied to be edible. [288]

Schlechterella africana (Schltr.) K.Schum.

Northern Tanzania, Eastern Kenya, Somali: "fajita", "eli", Boran: "singo".

Large tuber eaten by the locals in times of drought. Also fed to young camels. [45]

Secamone elliptica R. Br.

China: "ji yu teng".

China, roots vs. rheumatism and traumatic injury. [141]

Secamone parvifolia (Oliv.) Bullock

Tanzania, Sukuma, roots pounded, mixed with honey to treat harsh cough. Leaves vs. scabies. [189]

Stapelia spp.

Used to ward off lightning. [241] Compare the similar lightning protection attributed to European *Sempervivum*, Houseleek. [me] Used vs. protruding navel. [95] This might refer to the belief that a child must cover his navel when he sees a *Stapelia* or his navel will get swollen. [90]

Stapelia gigantea N.E. Br.

Swaziland: "tililolomncane". [144]

Purgative, emetic. Medicinally used against hysteria. The ash of this sp. or *Stapelia nobilis* (now regarded as the same sp.) were rubbed into scarifications to relieve pain. In Zulu sorcery used with grave dirt to cause death. [241] Aerial parts rubbed into cuts. [111] Swaziland, remedy for hysteria & mental disorders. Emetic. [144] Botswana, flowers edible. Fruits eaten by vervet monkeys. [90]

Stapelia grandiflora Masson reported as *Stapelia flavirostris* N.E. Br.

Limbs bathed with a hot infusion vs. numbness. [241]

Stapelia kwebensis N.E. Br

!Kung: "tataba".

Leaves (sic) and root eaten by the !Kung. [137]

Stapelia leendertziae N.E. Br.

Swaziland: "tililolomncane".

Swaziland, remedy for hysteria & mental disorders. Emetic. [144]

Stapelia olivacea N.E. Br

S. Africa, Southeastern Karoo: "kalong".

S. Africa, Southeastern Karoo, fresh stems eaten for appetite suppression. Informant reported "sweet taste in the mouth does not last as long as that of ghaap (*Hoodia pilifera*)". [247]

Stapelia unicornis C.A. Lückh.

Swaziland: "tililolomncane".

Swaziland, remedy for hysteria & mental disorders. Emetic. [144]

Stathmostelma angustatum K.Schum.

Ethiopia, Amarinya: "engascelica".

Tubers eaten in Ethiopia. [78]

Stathmostelma angustatum* ssp. *vomeriforme (S.Moore) Goyder reported as *Stathmostelma thomasii*

North East Uganda, Karamojo, edible root. 5 inches long x 1 inch thick. [43]

Stathmostelma gigantiflorum K.Schum. reported as *Stathmostelma nomadacridum* Bullock

Tanzania, Rukwa Valley, 3 inch rounded tuber edible when the thin latex-bearing outer layer is removed. [43] Used medicinally. [44]

Stathmostelma pedunculatum (Decne.) K. Schum.

Kenya. Tuber said to be edible. Probably more common than *Stathmostelma* prop*i*nquum. [156] Tanzania, Zigua, male aphrodisiac, roots pounded into flour, cooked and eaten. [189]

Stathmostelma propinquum (N.E.Br.) Schltr.

Kenya, Maa: "oltiakule", "entiakule", "entiakuleti", "olekole loosirkon", "olkikwakei".

Kenya, Maasai, the juicy tubers are peeled and eaten raw. They have a very bland taste but are much liked by pastoralists for quenching thirst. [156]

Stathmostelma spectabile (N.E.Br.) Schltr

East Africa. Roots pounded and boiled with milk, after cooling, the liquid on top makes a rapid and effective cure for diarrhoea. [48]

Stelmocrypton khasianum (Kurz) Baill.

China: "xu yao teng".

China, all parts are used medicinally for bronchitis, cough, and epidemic influenza. The roots yield an aromatic oil. [141]

Streptocaulon baumii

Philippines, Tagalog: "Hinggiu-kalabau", "Hinggiu-na-puti", "Sibot-sibotan", "Hinggiu-na-puti". Iloko: "Maraipus". Pangasinan: "Sulding". [219]

Philippines, used in agricultural ritual. Leaves applied vs. pinworms. [188] Used for wound healing. [219]

Streptocaulon juventas (Lour.) Merr.

Vietnam: "ha thu o trang". [233] China: "ma lian an"

China, pale yellow flower, edible. [188] Cochinchina (now the Nam Bộ region of Vietnam), reported in 1790 as used for rejuvenating old men. See Latin quote and translation in reference. Regarded as the local equivalent of the expensive and desirable rejuvenating Chinese herb Ho Shou Wu (*Polygonum multiflorum*, Polygonaceae), [145] called "ha thu o do" in Vietnam. [233] China, roots used vs. dysentery, stomachache. Leaves externally vs. snakebite, abscess. [141] Vietnam, roots as tonic and vs. anaemia, chronic malaria, rheumatism, menstrual disorders, neurasthenia, dyspepsia. [233]

Telosma cordata (Burm. f.) Merr.

China: "ye lai xiang" (= night-arriving fragrance). [141] Vietnam: "thiên lý". [102] Thai: "cowslip creeper". [210]

China, flowers in cooking and medicinally vs. conjunctivitis, very fragrant, yielding a perfumed oil. [141] Southern China, not usually sold commercially but available at a Hong Kong market in summer. Whole flower cluster with buds and open flowers soaked to persuade insects to leave. Dropped into soup just before serving. [105] Vietnam, Thanh Hoa province, cultivated for flowers used in food and medicine. [102] Stir-fried, the flowers contain 46.7 - 77.6 mg of Vitamin C per 100g. [210] The fragrance of the flowers has geraniol, β-ionone and dihydro-β-ionone as the major components, giving rose and violet notes. The "diffusiveness" or wide dispersion of perfume that gives the genus its name, from the ancient Greek τῆλε far ὀσμή scent, is due to β-ionone. [23]

Telosma procumbens (Blanco) Merr.

Philippines, infusion or decoction of leaves used vs. scabies, ulcers and wounds. Leaves applied vs. headache. Vietnam, substitute for liquorice for its sweet taste, as expectorant and vs. coughs. Contains at least 18 polyoxypregnane steroid glycosides, one of which, telosmoside A15, has 1000 times the sweetness of sucrose by weight. [106]

Toxocarpus wightianus Hook. & Arn.

China, "gong guo teng".

China, all parts externally vs. traumatic injury and boils. [141]

Trichocaulon spp. see *Hoodia* spp.

Xysmalobium acerateoides N.E.Br.

Swaziland: "umdzayi".

Swaziland, edible leaves & fruit. [144]

Xysmalobium asperum N.E.Br.

Swaziland: "umdzayana".

Swaziland, edible leaves. [144]

Xysmalobium heudelotianum Decne.

Toxic cardiac glycosides like digitalis. Said to be edible but this might be confusion with *Raphionacme*. [59]

Xysmalobium involucratum (E. Mey.) Decne.

S. Africa, isiZulu: "udelunina" = "forsaking one’s mother".

If ingested by a girlfriend/boyfriend, they leave their mother and go to live with the partner. A concoction of the stem-tuber is used to sprinkle around the homestead as a protective charm. [211]

Xysmalobium undulatum (L.) W.T. Aiton

S. Africa, Southern Sotho: "poho-tšehla" [139, 211], "leshokoa", Xhosa: "iyeza elimhlophe", "nwachaba", "ishongwane", Zulu: "iShongwane", "iShongwe", "iShinga". Swaziland: "lishongwe", "umdzayi". [211]
German: Uzarawurzel. [37]

Southern Sotho, young leaves as spinach or green vegetable. [211] Swaziland, young leaves are edible. Roots for indigestion, fever, colds, diarrhoea & urethral discharge. [144] S. Africa, the bitter root powder is sprinkled on skins and hides to prevent dogs from gnawing them. The bitter latex of this and other spp. is used to deter dogs from stealing eggs. Powdered root medicinally vs. wounds, abscesses, headaches, painful menstrual cramps, indigestion, colic, abdominal troubles, diarrhoea, dysentery, food poisoning, bad colds, malaria and other fever (including typhoid), and as an antispasmodic, bitter tonic and as an emetic in poisoning. Latex applied to festering wounds to avoid maggots. Used in magic to divert storms and make dogs keen hunters. [211] Lesotho, medicinal [139]. Germany, dried underground parts of 2-3 year old plants are an approved herb in the Commision E Monographs. Used vs. acute diarrhoea. Contains cardenolide glycosides and in high dosages can have toxic digitalis-like effects on the heart. For medicinal use, a single dose up to the equivalent of 1g of herb or 75mg of total glycosides, daily dosage 45-90mg of total glycosides. [37]

<><><><><><><><><><><><><><><><><><><><><><><><><><><><><><><><><><><><><><><><><>

[1] Anonymous: no author credited. "Rubber from Milkweed." Popular Mechanics Magazine (1942) 77(3): 88-89, 163 Accessed through Google Books at http://books.google.co.uk/books

[2] Brussell, DE "Medicinal Plants of Mt. Pelion, Greece." Economic Botany (2004) 58(Supplement): S174-S202

[3] Abdel-Sattar, E et al "Penicillosides A–C, C-15 oxypregnane glycosides from Caralluma penicillata." Phytochemistry (2001) 57(8): 1213-1217

[4] Abdel-Sattar, E et al "Acylated pregnane glycosides from Caralluma russeliana." Phytochemistry (2007) 68(10): 1459-1463

[5] Acuherb Chinese Medical Centre, 554 Stockport Road, Longsight, Manchester, M12 4JJ

[6] Adibatti, NA et al "A pyridine alkaloid from Ceropegia juncea." Phytochemistry (1991) 30(7): 2449-2450

[7] AFlora Committee, Center for African Area Studies, Kyoto University "AFlora on the Web:The database of traditional plant utilization in Africa" http://130.54.103.36/aflora.nsf Retrieved 22/10/2010

[8] Ahmad, M et al "A Taxonomic And Medicinal Account Of The Asclepiadaceous Species In The Salt Range of Pakistan." Asklepios (2007) 97: 3-12

[9] Akhter, R and Arsha, M "Arid rangelands in the Cholistan Desert (Pakistan)." Science et changements planétaires / Sécheresse (2006) 17(1): 210-7

[10] Alagesaboopathi, C "Ethnomedicinal Plants and Their Utilization by Villagers in Kumaragiri Hills of Salem District of Tamilnadu, India" African Journal of Traditional, Complementary, and Alternative Medicines (2009) 6(3): 222-227

[11] Alam, MI et al "Isolation, purification and partial characterization of viper venom inhibiting factor from the root extract of the Indian medicinal plant sarsaparilla (Hemidesmus indicus R.Br.)." Toxicon (1994) 32(12): 1551-1557

[12] Al-Fatimi, M et al "Antioxidant, antimicrobial and cytotoxic activities of selected medicinal plants from Yemen." Journal of Ethnopharmacology (2007) 111(3): 657-666

[13] Ali, SI "Under-exploited economic plants of Pakistan." Journal of Arid Environments (1986) 11: 17 et seq.

[14] Ali, SI "Asclepiadaceae" in "Flora of Pakistan" at http://www.efloras.org/ Accessed 17/11/2010

[15] Al Safi, A "Traditional Sudanese Medicine." (2006) On http://www.scribd.com/ Accessed 2/11/2010

[16] Al-Yahya, MA-A and Tariq, M "Studies on Caralluma penicillata." Fitoterapia (1983) 54: 41-46

[17] Al-Yahya, MA-A et al "Pregnane Glycosides from Caralluma russeliana." Journal of Natural Products (2000) 63(10): 1451–1453

[18] Anonymous: no author credited. "XLIV - Ecanda Rubber." Bulletin of Miscellaneous Information (Royal Gardens, Kew) (1909) (8): 321-325

[19] Anonymous: no author credited. "Miscellaneous Notes" Bulletin of Miscellaneous Information (Royal Gardens, Kew) (1934) (1): 39-48

[20] Anonymous: no author credited. International Plant Genetic Resources Institute "Conserving Brachystelma lankana - a wild edible plant." Newsletter for Asia, The Pacific and Oceania (1999) 28: 13-14 ftp://ftp.cgiar.org/ipgri/Publications/pdf/10.pdf Reporting the work of Dassanayake, MD and Jayasuriya, AHM of the Plant Genetic Resources Centre, Peradeniya, Sri Lanka. Retrieved 24/10/10

[21] Appa Rao, AVN "Chemical investigations of Carallumas of India" Planta Medica (2009) 75(9): SL22

[22] Aquino, R et al "New Polyoxypregnane Ester Derivatives from Leptadenia hastata." Journal of Natural Products (1995) 58(5): 672-679

[23] Aral, T et al "Volatile components of Telosma cordata Merrill flowers." Flavour and Fragrance Journal (1993) 8(4): 221–223

[24] Archer, RH and Victor, EJ "479. Hoodia pilifera subsp. Pillansii; Apocynaceae: Asclepiadoideae." Curtis's Botanical Magazine (2003) 20(4): 219-224

[25] Arekal, GD, Ramakrishna TM "A new species of Brachystelma (Asclepiadaceae) from India." Current Science (1981) 50(3): 145-146

[26] Arenas, P "Morrenia odorata (Asclepiadaceae), an edible plant of the Gran Chaco" Economic Botany (1999) 53(1): 89-97

[27] Ayensu, ES "Medicinal Plants of China" 1985 Reference Publications, Inc. Michigan.

[28] Ayodele, AE "The Medicinally Important Leafy Vegetables of South Western Nigeria." Ethnobotanical Leaflets (2005) 1: Article 16. Available at: http://opensiuc.lib.siu.edu/ebl/vol2005/iss1/16 Accessed 20/11/2010

[29] Ayyanar, M, Ignacimuthu, S "Traditional knowledge of Kani tribals in Kouthalai of Tirunelveli hills, Tamil Nadu, India" Journal of Ethnopharmacology (2005) 102(2): 246-255

[30] Bader, A et al "Further constituents from Caralluma negevensis." Phytochemistry (2003) 62(8): 1277-1281

[31] Balemie, K and Kebebew, F "Ethnobotanical study of wild edible plants in Derashe and Kucha Districts, South Ethiopia." Journal of Ethnobiology and Ethnomedicine (2006) 2: 53

[32] Bally, PRO "Native Medicinal and Poisonous Plants of East Africa" Bulletin of Miscellaneous Information (Royal Gardens, Kew) (1937) (1): 10-26

[33] Barrera Martínez, I et al "Sahara Occidental: Plantas y Usos." (2007, CEDRO) Online at http://www.jolube.es Accessed 29/10/2010

[34] Bedi, SJ "Ethnobotany of the Ratan Mahal Hills, Gujarat, India" Economic Botany (1978) 32(3): 278-284

[35] Beena, MR and Martin, KP "In vitro propagation of the rare medicinal plant Ceropegia candelabrum L. through somatic embryogenesis" In Vitro Cell Development Cellular Biology - Plant (2003) 39: 510-513

[36] Beena, MR et al "Rapid in vitro propagation of medicinally important Ceropegia candelabrum." Plant Cell Tissue and Organ Culture (2003) 72: 285-289.

[37] Blumenthal, M (Senior Editor), Klein, S (Primary Translator) et al "The Complete German Commision E Monographs." (1998, American Botanical Council, Texas) Page 226

[38] Booth, FEM and Wickens, GE "Non-timber uses of selected arid zone trees and shrubs in Africa" FAO Conservation Guide 19 (1998, Food and Agriculture Organization of the United Nations)

[39] Boulos, L "Medicinal Plants of North Africa." (1983, Reference Publications Ltd, Algonac, Michigan)

[40] Brown, NE "Diagnoses Africanæ VIII: Asclepiadeæ." Bulletin of Miscellaneous Information (Royal Gardens, Kew) (1895) 106: 247-265

[41] Bruyns, PV and Klak, C "A systematic study of the Old World genus Fockea (Apocynaceae-Asclepiadoideae)." Annals of the Missouri Botanical Garden (2006) 93(4): 535-564

[42] Bullock, AA "South African Poisonous Plants" Kew Bulletin (1952) 7(1): 117-129

[43] Bullock, AA "Notes on African Asclepiadaceae: II" Kew Bulletin (1953) 8(1): 51-67

[44] Bullock, AA "Notes on African Asclepiadaceae: III" Kew Bulletin (1953) 8(3): 329-362

[45] Bullock, AA "Notes on African Asclepiadaceae: IV" Kew Bulletin (1954) 9(2): 349-373

[46] Bullock, AA "Notes on African Asclepiadaceae: V" Kew Bulletin (1954) 9(4): 579-594

[47] Bullock, AA "Notes on African Asclepiadaceae: VII" Kew Bulletin (1955) 10(4): 611-626

[48] Bullock, AA "Notes on African Asclepiadaceae: IX" Kew Bulletin (1961) 15(2): 193-206

[49] Bullock, AA "Notes on African Asclepiadaceae: X" Kew Bulletin (1963) 17(1): 183-196+ii

[50] Cactus Shop, 60 Parsonsfield Road, Banstead, Surrey, SM7 1JS http://www.cactusshop.co.uk/

[51] Cavalli, SV et al "Comparison of two cysteine endopeptidases from latices of Morrenia brachystephana Griseb. and Morrenia odorata (Hook et Arn.) Lindley (Asclepiadaceae)." Biological Chemistry (2001) 382(5): 879-883

[52] Chandrasekar, K et al "Promising fibre-yielding plants of the Indian Himalayan Region." (2010, G.B. Pant Institute of Himalayan Environment & Development, Uttarakhand)

[53] Char MBS "A new species of Brachystelma R. Br. (Asclepiadaceae) from India." Current Science (1978) 47(24): 965-966

[54] Chen, Z-S et al "Disformone and dischidiol from Dischidia formosana" Phytochemistry (1993) 34(3): 783-786

[55] Cioffi, G et al "Pregnane Glycosides from Leptadenia pyrotechnica" Journal of Natural Products (2006) 69(4): 625-635

[56] Collett, H and Hemsley, WB "On a Collection of Plants from Upper Burma and the Shan States." Journal of the Linnean Society of London, Botany (1890) XXVIII(189-190): 1-150 [Pages 89-90 and Plate 14 for Brachystelma edulis.] Sometimes given as 1891 as that was the year that the journal was bound into book form.

[57] Court, GD "Fockea Endl. - An African Genus." Asklepios (1987) 40: 69-74

[58] Croston Cactus, 43 Southport Road, Eccleston, Chorley, Lancashire PR7 6ET http://www.croston-cactus.co.uk/

[59] Dalziel JM, M.D. B.Sc. F.L.S., Late of the West African Medical Service "The Useful Plants of West Tropical Africa" (1948, The Crown Agents for the Colonies)

[60] Darias, V et al "Contribution to the ethnopharmacological study of the Canary Islands." Journal of Ethnopharmacology (1986) 15(2): 169-193

[61] Darias, V et al "New contribution to the ethnopharmacological study of the Canary Islands " Journal of Ethnopharmacology (1989) 25(1): 77-92

[62] Davies, G "The Medical Culture of the Ovambo of Southern Angola and Northern Namibia." Thesis, University of Kent at Canterbury. (1994) http://lucy.ukc.ac.uk/csacpub/davies_thesis/ Retrieved 24/10/10

[63] De Britto, J and Mahesh, R "Exploration of Kani Tribal Botanical Knowledge in Agasthiayamalai Biosphere Reserve - South India." Ethnobotanical Leaflets (2007) 11: 258-265 Online at http://opensiuc.lib.siu.edu/ebl/vol2007/iss1/29 Accessed 20/11/2010

[64] De Leo, M et al "New pregnane glycosides from Caralluma dalzielii." "Steroids" (2005) 70(9): 573-585

[65] Dold, T and Kobisi, K "Notes on the genus Brachystelma in Lesotho." Asklepios (2003) 89: 3-7

[66] Drury, H "The Useful Plants of India: alphabetically arranged with botanical descriptions, vernacular synonyms and notices of their economic value in commerce, medicine and the arts." (1858, The Asylum Press, Madras)

[67] Duvall, CS "Important habitat for chimpanzees in Mali." African Study Monographs (2000) 21(4): 173-203 http://www.africa.kyoto-u.ac.jp/kiroku/asm_normal/abstracts/pdf/21-4/173-203.pdf Accessed 5/11/2010

[68] Falconer, J ""Hungry season" food from the forests." "Forestry and food security" in Unasylva (1990) 160: from the FAO website. http://www.fao.org/docrep/t7750e/t7750e03.htm Accessed 30/10/2010

[69] Falk, H "Soma I and II." Bulletin of the School of Oriental and African Studies (1989) 52(1): 77-90

[70] Fern, K "Plants for a Future Database" http://www.pfaf.org/ Retrieved 24/10/2010

[71] Field, DV "Two New African Species of Ceropegia (Asclepiadaceae) and a Reconsideration of C. subaphylla." Kew Bulletin (1982) 37(2): 305-313

[72] Fleurentin, J and Pelt, J-M "Repertory of drugs and medicinal plants of Yemen" Journal of Ethnopharmacology (1982) 6(1): 85-108

[73] Fleurentin, J and Pelt, J-M "Additional information for a repertory of drugs and medicinal plants of Yemen" Journal of Ethnopharmacology (1983) 8(2): 237-243

[74] Forskål, P (Forsskål, P) "Flora Ægyptiaco-Arabica ..." (1775) II: 49-53 Downloaded from http://www.botanicus.org 1/11/2010

Original Latin supplementary notes on *Cynanchum arboreum*:

"Banjani vocant Dali & illi soli fructum edunt coctum; Arabes respuunt."

Original Latin supplementary notes on *Cynanchum pyrotechnicum*:

"Frequens ubique. Medulla hujus fruticis pro fomite usurpatur ad ignem excipiendum, qui frictione lignorum folidorum excitatur.

Resina vel succo ungunt Variolis laborantem; miro successu vires restituendi. Rustici caules recentes masticant, ad dentes purgandos."

[75] Forster, PI "Ethnobotanical use of Brachystelma (Asclepiadaceae) in Australia" Economic Botany (1987) 41(2): 323- 324

[76] Freedman, R "Famine Foods" from the Purdue University Center for New Crops & Plant Products website http://www.hort.purdue.edu/newcrop/faminefoods/ff_families/asclepiadaceae.html Retrieved 17/10/2010 Quoting (xl) for Zululand.

[77] Gast, M "Alimentation des Populations de L'Ahaggar, Étude Ethnographique." (1968, Arts et Métiers Graphiques, Paris) 220, 228, 281, Plate XLIII

[78] Getahun, A "The role of wild plants in the native diet in Ethiopia" Agro-Ecosystems (1974) 1: 45-56

[79] Ghazanfar, SA "Succulent Healers." Asklepios (2002) 86: 3-7

[80] Girija, T and Tabish "Flowers of India" website http://www.flowersofindia.net Retrieved 13/10/2010

[81] Girishkumar, V et al "Modulating effect of Leptadenia reticulata (Retz) Wight & Arn against chromate (VI)-induced immunosuppression and oxidative stress on mouse splenic lymphocytes and bone marrow derived macrophages." Journal of Ethnopharmacology (2010) 131(2): 505-508

[82] Grieve, M "A Modern Herbal" (1931) Content online at http://botanical.com/botanical/mgmh/mgmh.html

[83] Guha Bakshi, DN et al "A Lexicon of Medicinal Plants in India." Vol I (1999, Naya Prokash, Calcutta)

[84] Guinea López, E "Aspecto forestal del desierto. La vegetación leñosa y los pastos del Sahara español." (1945, Instituto Forestal de Investigaciones y Experiencias, Madrid) Accessed through the website of the Jardin Botánico Réal at http://bibdigital.rjb.csic.es/spa/index.php Accessed 30/10/2010

[85] Habibuddin, M et al "Antidiabetic effect of alcoholic extract of Caralluma sinaica L. on streptozotocin-induced diabetic rabbit." Journal of Ethnopharmacology (2008) 117(2): 215-220

[86] Hamill, FA et al "Traditional herbal drugs of Southern Uganda, II: literature analysis and antimicrobial assays." Journal of Ethnopharmacology (2003) 84(1): 57-78

[87] Hanif, A et al "Ethnobotanical Survey of the Rakhain Tribe Inhabiting the Chittagong Hill Tracts Region of Bangladesh." American-Eurasian Journal of Sustainable Agriculture (2009) 3(2): 172-180

[88] Hargreaves, BJ "Ceropegia and Fockea in Botswana." Asklepios (2000) 79: 10-15

[89] Hargreaves, BJ "Edible Milkweed Fruits." Asklepios (2003) 89: 17-18

[90] Hargreaves, B[J] "Edible Milkweed Flowers." Asklepios (2005) 92: 3-4

[91] Hargreaves, BJ "Useful Milkweed Leaves." Asklepios (2005) 93: 4-6

[92] Hargreaves, BJ "Edible Milkweed Tubers." Asklepios (2009) 104: 9-10

[93] Hargreaves, BJ and Turner, Q "Uses and Misuses of Hoodia." Asklepios (2002) 86: 11-16

[94] Hastings, J and Selbie, JA "Encyclopedia of Religion and Ethics Part 18." Page 527 Through Google Books.

[95] van Heerden, FR "Hoodia gordonii: A natural appetite suppressant" Journal of Ethnopharmacology (2008) 119(3): 434-437

[96] Heine B, Heine I "Plant concepts and plant use: Part I Plants of the Chamus (Kenya)" (1988, Verlag Breitenbach, Saarbrüken, Ft. Lauderdale)

[97] Heine B, König C "Plant concepts and plant use: Part II Plants of the So (Uganda)" (1988, Verlag Breitenbach, Saarbrüken, Ft. Lauderdale)

[98] Heine B, Heine I "Plant concepts and plant use: Part III Rendille plants (Kenya)" (1988, Verlag Breitenbach, Saarbrüken, Ft. Lauderdale)

[99] Hely-Hutchinson, W "DCI - Famine Foods in Zululand" Bulletin of Miscellaneous Information (Royal Gardens, Kew) (1898) 135: 51-54

[100] Herbalveda, 167 Castle Road, Northolt, Middlesex, UB5 4SG   http://www.herbalveda.co.uk/

[101] Hernandez-Aguilar RA, Moore J, Pickering TR "Savanna chimpanzees use tools to harvest the underground storage organs of plants" Proceedings of the National Academy of Sciences, USA (2007) 104(49): 19210–19213

[102] Hoang, SV et al "Uses and Conservation of Plant Species in a National Park—A Case Study of Ben En, Vietnam." Economic Botany (2008) 62(4): 574-593

[103] Hobbs, JJ "Bedouin Life in the Egyptian Wilderness." (1989, University of Texas Press)

[104] Hu, S et al "Paeonol, the main active principles [sic] of Paeonia moutan, ameliorates alcoholic steatohepatitis in mice." Journal of Ethnopharmacology (2010) 128(1): 100-106

[105] Hu, S-Y "Food Plants of China" (The Chinese University Press, 2005) Accessed through Google Books at http://books.google.co.uk/books

[106] Huan, VD et al "Sweet Pregnane Glycosides from Telosma procumbens" Chemical and Pharmaceutical Bulletin (2001) 49(4): 453-460

[107] Ignacimuthu, S et al "Ethnobotanical investigations among tribes in Madurai District of Tamil Nadu (India)." Journal of Ethnobiology and Ethnomedicine (2006) 2: 25

[108] Inngjerdingen, K et al "An ethnopharmacological survey of plants used for wound healing in Dogonland, Mali, West Africa" Journal of Ethnopharmacology (2004) 92(2-3): 233-244

[109] International Plant Genetic Resources Institute (IPGRI) and Rural Development Administration (RDA) of the Republic of Korea "Asian Medicinal Plants" http://www.genebank.go.kr/pp_a/info.jsp Accessed 15/2/2011

[110] Irvine, FR "Supplementary and Emergency Food Plants of West Africa." Economic Botany (1952) 61(1): 23-40

[111] Jäger, AK "Screening of Zulu medicinal plants for prostaglandin-synthesis inhibitors" Journal of Ethnopharmacology (1996) 52(2): 95-100

[112] Jain, A et al "Folk herbal medicines used in birth control and sexual diseases by tribals of southern Rajasthan, India." Journal of Ethnopharmacology (2004) 90(1): 171-177

[113] Jain, A et al "Medicinal plant diversity of Sitamata wildlife sanctuary, Rajasthan, India" Journal of Ethnopharmacology (2005) 102(2): 143-157

[114] Jain, GC et al "Hypolipidemic and Antiatherosclerotic Effect of Leptadenia pyrotechnica Extract in Cholesterol Fed Rabbits." Asian Journal of Experimental Sciences (2007) 21(1): 115-122

[115] Jansen, PCM "Caralluma edulis (Edgew.) Benth. ex Hook.f." [Internet] Record from Protabase. (2004)Grubben, GJH & Denton, OA (Editors). PROTA (Plant Resources of Tropical Africa / Ressources végétales de l'Afrique tropicale), Wageningen, Netherlands. http://database.prota.org/search.htm Accessed 29 October 2010.

[116] Jansen, PCM "Ceropegia papillata N.E.Br." [Internet] Record from Protabase. (2004) Grubben, GJH & Denton, OA (Editors). PROTA (Plant Resources of Tropical Africa / Ressources végétales de l'Afrique tropicale), Wageningen, Netherlands. http://database.prota.org/search.htm Accessed 29 October 2010.

[117] Jansen, PCM "Edithcolea grandis N.E.Br." [Internet] Record from Protabase. (2004) Grubben, GJH & Denton, OA (Editors). PROTA (Plant Resources of Tropical Africa / Ressources végétales de l'Afrique tropicale), Wageningen, Netherlands. http://database.prota.org/search.htm Accessed 28 October 2010.

[118] Jansen, PCM "Gongronema angolense (N.E.Br.) Bullock." [Internet] Record from Protabase. (2004) Grubben, GJH & Denton, OA (Editors). PROTA (Plant Resources of Tropical Africa / Ressources végétales de l'Afrique tropicale), Wageningen, Netherlands. http://database.prota.org/search.htm Accessed 28 October 2010

[119] Jansen, PCM "Hoodia currorii (Hook.) Decne." [Internet] Record from Protabase. (2004) Grubben, GJH & Denton, OA (Editors). PROTA (Plant Resources of Tropical Africa / Ressources végétales de l'Afrique tropicale), Wageningen, Netherlands. http://database.prota.org/search.htm Accessed 28 October 2010.

[120] Jin, C et al "Ethnobotanical studies on wild edible fruits in southern Yunnan: Folk names; nutritional value and uses." Economic Botany (1999) 53(1): 2-14

[121] JMH (perhaps John Masters Hillier, Keeper of Museums at Kew from 1901-1926) "Ecanda Rubber (Raphionacme utilis)." page 352 in "Miscellaneous Notes" Bulletin of Miscellaneous Information (Royal Gardens, Kew) (1911) 8: 348-352

[122] Johns, T and Kokwaro, JO "Food Plants of the Luo of Siaya District, Kenya." Economic Botany (1991) 45(1): 103-113

[123] Johnson, SNA "Taxonomic Validation of Crude Drugs used for Poisonous Bites by Adivasis of Rayalaseema Region, Andhra Pradesh" Ethnobotanical Leaflets (2008) 12: 934-937 Online at http://opensiuc.lib.siu.edu/ebl/vol2008/iss1/126 Accessed 20/11/2010

[124] Jonkers, B "The Habitat of Rhytidocaulon paradoxum in Southern Somalia." Asklepios (1997) 70: 28-33

[125] Kala, CP "Aboriginal uses and management of ethnobotanical species in deciduous forests of Chhattisgarh state in India." Journal of Ethnobiology and Ethnomedicine (2009) 5: 20

[126] Kashikar, CG and Parpola, A "Srauta traditions in recent times." in "Agni: The Vedic Ritual of the Fire Ritual" Vol. II, Eds: Staal, F and MacFarland, P (1983, Asian Humanities Press, Berkeley) Page 248 in pages 199-251

[127] Kellerman, TS et al "Plant Poisonings and Mycotoxicoses of Livestock in Southern Africa." (1988, Oxford University Press, Cape Town)

[128] Khan, MA and Qaiser, M. "Halophytes of Pakistan: Characteristics, Distribution and Potential Economic Usages." in Khan, MA et al "Sabkha Ecosystems: Volume II: The South and Central Asian Countries." (2006, Springer, Netherlands) 129-153

[129] Khare, CP "Indian Medicinal Plants: An Illustrated Dictionary." (2007, Springer Verlag)

[130] Kishore Kumar, K and Goyder, DJ "Brachystelma swarupa (Apocynaceae): a new species from India" Kew Bulletin (2001) 56(1): 209-216

[131] Kottaimuthu, R "Ethnobotany of the Valaiyans of Karandamalai, Dindigul District, Tamil Nadu,

India." Ethnobotanical Leaflets (2008) 12: 195-203 Online at http://opensiuc.lib.siu.edu/ebl/vol2008/iss1/24 Accessed 20/11/2010

[132] Kubo, I and Kinst-Hori, I "2-Hydroxy-4-methoxybenzaldehyde: A Potent Tyrosinase Inhibitor from African Medicinal Plants" Planta Medica (1999) 65: 19-22

[133] Kuriyan, R et al "Effect of Caralluma Fimbriata extract on appetite, food intake and anthropometry in adult Indian men and women." Appetite (2007) 48(3) 338-344

[134] LAB (perhaps Leonard Alfred Boodle, Assistant Keeper of the Jodrell Laboratory at Kew from 1904-1930) "Raphionacme utilis" pages 305-307 in "Miscellaneous Notes" Bulletin of Miscellaneous Information (Royal Gardens, Kew) (1908) (7): 304-316

[135] Lamidi, M & Bourobou Bourobou, H "Mondia whitei (Hook.f.) Skeels." [Internet] Record from Protabase. (2010) Schmelzer, GH & Gurib-Fakim, A (Editors). PROTA (Plant Resources of Tropical Africa / Ressources végétales de l'Afrique tropicale), Wageningen, Netherlands. http://database.prota.org/search.htm Accessed 29 October 2010.

[136] Leakey, LSB "The Southern Kikuyu before 1903." (1977, Academic Press)

[137] Lee, RB "The !Kung San: Men, Women and Work in a Foraging Society." (1979, Cambridge University Press)

[138] Lee, RB and DeVore, I "Kalahari hunter gatherers: Studies of the !Kung San and their neighbours." (1998, Harvard University Press, Cambridge, Mass. and London, England)

[139] Letšela, T et al "Plant resources used for subsistence in Tsehlanyane and Bokong in Lesotho." Economic Botany (2003) 57(4):619-639

[140] Lewis, CT and Short, C "A Latin Dictionary" at Perseus Digital Library, Tufts University, Editor-in-Chief: Crane, RG http://www.perseus.tufts.edu/hopper/text?doc=Perseus:text:1999.04.0057 Accessed 2/11/2010

[141] Li, B et al "Asclepiadaceae" in "Flora of China" at http://www.efloras.org/index.aspx Accessed 16/11/2010

[142] Liddell, NG and Scott, R "A Greek-English Lexicon" at Perseus Digital Library, Tufts University, Editor-in-Chief: Crane, RG http://www.perseus.tufts.edu/hopper/text?doc=Perseus:text:1999.04.0057 Accessed 24/10/2010

[143] Lin, Y-L et al "Three new purinium derivatives, Heteromines A, B, and C from Heterostemma brownii." Heterocycles (1996) 43(4): 781-786

[144] Long, C "Swaziland's Flora - siSwati Names and Uses." Swaziland National Trusts Commission website http://www.sntc.org.sz/flora/clusagelist.asp?uid=1&pg=1 © December 2005 Some names from the same website's "Swaziland's Flora Database" http://www.sntc.org.sz/flora/index.asp Retrieved 18/10/2010

[145] de Loureiro, J "Flora Cochinchinensis." (1790, Lisbon) Volume I, pages 167-168

"Creditur a Medicis indigenis plantae hujus radicem ita spiritus animales recreare, ut longo ejus usu homines senescentes ad juventutem redeant. Idem sentiunt Sinenses de planta Ho xeu u, quad eandem esse existimant: sed mihi obvia non fuit, ut examine Botanico probaretur: radix autem, qua usus sum, formam habet a Cochinchinensi diversam."

"It is believed by the local physicians that the root restores the animating spirit, so that by long use ageing men can be returned to youth. It is thought to be the same as the Chinese Ho Shou Wu, but this was not obvious to me, on examination the Botanist would prove it: the root, which I have used, has a different form from that of Cochinchina."

[146] Löw, I "Die Flora der Juden" Vol 1. (1967, Georg Olms Verlag., Hildesheim)

[147] Luseba, D et al "Antibacterial, anti-inflammatory and mutagenic effects of some medicinal plants used in South Africa for the treatment of wounds and retained placenta in livestock." South African Journal of Botany (2007) 73(3): 378-383

[148] Mahanga GM et al "2-Hydroxy-4-methoxybenzaldehyde: Larvicidal structure-activity studies." Bulletin of the Chemical Society of Ethiopia (2005) 19(1): 61-68

[149] Manandhar, NP and Manandhar, S "Plants and People of Nepal." (2002,Timber Press) Accessed through Google Books http://books.google.co.uk/ 19/11/2010

[150] Marloth, R "The Flora of South Africa." (1932, Darter Bros. & Co., Capetown/Wheldon & Wesley, Ltd., London) Vol. III, Sect. I, pp 67-103

[151] Marshall, L "The !Kung San of Nyae Nyae." (1976, Harvard University Press, Cambridge, Mass. and London, England)

[152] Masson, F "Stapeliae Novae or a collection of several new species of that genus discovered in the interior parts of Africa." (1796, George Nicol, London)

[153] Martey, ONK and He, X, "Possible mode of action of Mondia whitei: An aphrodisiac used in the management of erectile dysfunction." Journal of Pharmacology and Toxicology (2010) 5: 460-468.

[154] Masinde, PS "A New Kenyan Species of Ceropegia (Asclepiadaceae-Stapelieae) with Notes on Allied Taxa." Kew Bulletin (1999) 54(2): 477-481

[155] Mathieu, G and Meissa, D "Traditional Leafy Vegetables in Senegal: Diversity and Medicinal Uses." African Journal of Traditional, Complementary, and Alternative Medicines (2007) 4(4): 469–475

[156] Maundu, PM et al "Traditional Food Plants of Kenya" (1999, Kenya Resource Centre for Indigenous Knowledge, National Museums of Kenya, Nairobi)

Online at http://www.fastonline.org/CD3WD_40/CD3WD/AGRIC/H1093E/EN/B567.HTM with figures of the main entries and a colour plate of a dug, tuberous plant of Stathmostelma propinquum, leaking latex.

[157] McGaw, LJ et al "The potential of South African plants against Mycobacterium infections" Journal of Ethnopharmacology (2008) 119(3): 482-500

[158] Mitsuhashi, M et al "Studies on the Constituents of Asclepiadaceae Plants VIII: On the Components of Metaplexis japonica MAKINO." Chemical and Pharmaceutical Bulletin (1962) 10(9): 811-817

[159] Morgan WTW "Ethnobotany of the Turkana" Economic Botany (1981) 35(1): 96-130

[160] Morris, B "Chewa Medical Botany: A Study of Herbalism in Southern Malawi." (1996, Lit Verlag) Pages 225-230

[161] Mors, WB et al "Plant natural products active against snake bite - the molecular approach." Phytochemistry (2000) 55(6): 627-642

[162] Mukhopadhyay, A "Appendix III: A glossary of botanical names and their Indian synonyms." in Ed. Sen Gupta, S "Tree symbol worship in India : a new survey of a pattern of folk-religion." (1965, Indian Publications, Calcutta) Pages 156-164

[163] Mukonyi KW, Ndiege IO "2-Hydroxy-4-methoxybenzaldehyde: Aromatic taste-modifying compound from Mondia whytei Skeels." Bulletin of the Chemical Society of Ethiopia (2001) 15(2): 137-142

[164] Nachtigal, G "Sahara and Sudan." Vol I, 108, 373 (1974, C. Hurst & Company, London)

[165] Nadembega, P "Medicinal Plants in Baskoure; Kourittenga Province; Burkina Faso: An Ethnobotanical Study." Journal of Ethnopharmacology (2010) In Press, available online 13th October.

[166] Nagarajan, S et al "Chemical composition of the volatiles of Decalepis hamiltonii (Wight & Arn)." Flavour and Fragrance Journal (2001) 16(1): 27-29

[167] Nanyingi, MO et al "Ethnopharmacological survey of Samburu district, Kenya." Journal of Ethnobiology and Ethnomedicine (2008) 4: 14

[168] Nasr Al-amin, NK et al "Combating desert encroachment by guiding people, wind and sand." Journal of Agricultural Meteorology (2005) 60: 349-352

[169] Naveen, S and Khanum, F "Antidiabetic, antiatherosclerotic and hepatoprotective properties of Decalepis hamiltonii in streptozotocin-induced diabetic rats." Journal of Food Biochemistry (2010) In Press. Online 28 June 2010

[170] Ndukwu, BC and Ben-Nwadibia, NB "Ethnomedicinal Aspects of Plants Used as Spices and Condiments in the Niger Delta Area of Nigeria," Ethnobotanical Leaflets (2005) 1: Article 10 Available at: http://opensiuc.lib.siu.edu/ebl/vol2005/iss1/10 Accessed 20/11/2010

[171] Noumi, E et al "Aphrodisiac Plants used in Cameroon." Fitoterapia (1998) 69: 125-134

[172] O'Flaherty, WD "The Post-Vedic History of the Soma Plant" in Wasson, RG "Soma: divine mushroom of immortality." (1968, Harcourt Brace Jovanovich Inc.) Page 110

[173] Oldfield, S "IUCN Status Survey and Conservation Action Plan: Cactus and Succulent Plants" http://data.iucn.org/dbtw-wpd/edocs/1997-041.pdf Retrieved 14/10/2010

[174] Oyama, M et al "Five New Steroidal Glycosides from Caralluma dalzielii" Helvetica Chimica Acta (2007) 90(1): 63-71

[175] Oyen, L.P.A., 2010. Pachycarpus spurius (N.E.Br.) Bullock. [Internet] Record from Protabase. Brink, M. & Achigan-Dako, E.G. (Editors). PROTA (Plant Resources of Tropical Africa / Ressources végétales de l’Afrique tropicale), Wageningen, Netherlands. http://database.prota.org/search.htm. Accessed 29 October 2010.

[176] Patil, VM "Micropropagation of Ceropegia spp." In Vitro Cell Development Cellular Biology - Plant (1998) 34: 240-243.

[177] Perry, LM, Metzger, J "Medicinal Plants of East and South East Asia: Attributed properties and uses." (1980, The MIT Press, Cambridge, Mass. and London, England)

[178] Quain, R (Chairman) et al "The British Pharmacopœia." (1898, Spottiswoode & Co., London) Pages 146, 328

[179] Qureshi, R "Floristic and Ethnobotanical Study of the Desert - Nara Region Sindh Volume II" Thesis for the Shah Abdul Latif University, Khairpur, Sindh http://prr.hec.gov.pk/Thesis/315.pdf Retrieved 21/10/2010

[180] Rajendran, R et al "Evaluation of nootropic activity of Slimaluma, an enriched phytochemical composition of Caralluma fimbriata in mice" Planta Medica (2008) 74(9): PA60

[181] Ramesh, M et al "Antinociceptive and anti-inflammatory activity of a flavonoid isolated from Caralluma attenuata" Journal of Ethnopharmacology (1998) 62(1): 63-66

[182] Ramesh, M et al "Antinociceptive and anti-inflammatory activity of carumbelloside-I isolated from Caralluma umbellata." Journal of Ethnopharmacology (1999) 68(1-3): 349-352

[183] Ravi Food Store, 213 Wilmslow Road, Rusholme, Manchester, United Kingdom, M14 5AG

[184] Ravishankar, B and Shukla, VJ "Indian Systems of Medicine: A Brief Profile." African Journal of Traditional, Complementary, and Alternative Medicines (2007) 4(3): 319–337

[185] Real Jardín Botánico website http://www.anthos.es/v22/index.php?set_locale=es Retrieved 13/10/2010 Spanish names, my own translation into English.

[186] Reddy, ChS "Ethnobotanical Observations on some Endemic Plants of Eastern Ghats, India" Ethnobotanical Leaflets (2006) 10: 82-91 http://www.ethnoleaflets.com//leaflets/ghats.htm Retrieved 17/10/2010

[187] Reddy, KN et al "Ethnobotanical Survey on Respiratory Disorders in Eastern Ghats of Andhra Pradesh, India." Ethnobotanical Leaflets (2006) 10: 139-148 Online at http://opensiuc.lib.siu.edu/ebl/vol2006/iss1/16 Accessed 20/11/2010

[188] von Reis Altschul, S "Drugs and Foods from Little-Known Plants: Notes in Harvard University Herbaria." (1973, Harvard University Press) Pages 229-234

[189] von Reis Altschul, S and Lipp Jr, FJ "New Plant Sources for Drugs and Foods from the New York Botanical Garden Herbarium." (1982, Harvard University Press)

[190] Řičánek, M and Hanáček, P "Rhytidocaulon tortum (N.E. Br.) M. Gilbert refound after 100 years." Cactus and Succulent Journal (U.S.) (1999) 71(2): 81-85 Retrieved from http://www.hanacek.wz.cz/CSJ71.pdf 18/11/2010

[191] Rizk, AM et al "Constituents of plants growing in Qatar III — Nutritive constituents of Garawah (Glossonema edule)." (1983) 33(1): 71-76

[192] Rizk, AM et al "Constituents of plants growing in Qatar Part XIX. Flavonoids of Glossonema edule N. E. Br." Plant Foods for Human Nutrition (1990) 40(1): 1-3

[193] Samir Kumar, S et al "Constituents from Hoya parasitica and their Cell Growth Inhibitory Activity." Planta Medica (2008) 74(7): 760-763

[194] Samuel, A et al "Ethnomedical survey of plants used by the Orang Asli in Kampung Bawong, Perak, West Malaysia." Journal of Ethnobiology and Ethnomedicine (2010) 6: 5

[195] Sanogo, R "Caralluma adscendens (Roxb.) R.Br." [Internet] Record from Protabase. (2010) Schmelzer, GH & Gurib-Fakim, A (Editors). PROTA (Plant Resources of Tropical Africa / Ressources végétales de l’Afrique tropicale), Wageningen, Netherlands. http://database.prota.org/search.htm. Accessed 29 October 2010.

[196] Santapau, H "Excursión botánica a Mahabléshwar, Estado de Bombay (India) durante el mes de Agosto de 1951." Anales del Instituto Botánico A. J. Cavanilles (1953) 11(1): 281-317 Accessed through the website of the archives of the Jardin Botánico Réal at http://www.rjb.csic.es/jardinbotanico/jardin/index.php?Cab=112&SubCab=217&len=es , home page http://www.rjb.csic.es/jardinbotanico/jardin/ Accessed 30/10/2010

[197] Scampton Succulents, UK http://scamptonsucculents.mybisi.com/

[198] Schmelzer, GH "Blyttia fruticulosa (Decne.) D.V.Field." [Internet] Record from Protabase. (2010) Schmelzer, GH & Gurib-Fakim, A (Editors). PROTA (Plant Resources of Tropical Africa / Ressources végétales de l’Afrique tropicale), Wageningen, Netherlands. http://database.prota.org/search.htm Accessed 29 October 2010.

[199] Schmelzer, GH "Buckollia volubilis (Schltr.) Venter & R.L. Verh." [Internet] Record from Protabase. (2010) Schmelzer, GH & Gurib-Fakim, A (Editors). PROTA (Plant Resources of Tropical Africa / Ressources végétales de l’Afrique tropicale), Wageningen, Netherlands. http://database.prota.org/search.htm. Accessed 29 October 2010.

[200] Schmelzer, GH "Ceropegia lugardae N.E.Br." [Internet] Record from Protabase. (2010) Schmelzer, GH & Gurib-Fakim, A (Editors). PROTA (Plant Resources of Tropical Africa / Ressources végétales de l’Afrique tropicale), Wageningen, Netherlands. http://database.prota.org/search.htm Accessed 29 October 2010.

[201] Schmelzer, GH "Fockea multiflora K.Schum." [Internet] Record from Protabase. (2010) Schmelzer, GH & Gurib-Fakim, A (Editors). PROTA (Plant Resources of Tropical Africa / Ressources végétales de l’Afrique tropicale), Wageningen, Netherlands. http://database.prota.org/search.htm Accessed 28 October 2010.

[202] Schmelzer, GH "Huernia keniensis R.E.Fr." [Internet] Record from Protabase. (2010) Schmelzer, GH & Gurib-Fakim, A (Editors). PROTA (Plant Resources of Tropical Africa / Ressources végétales de l’Afrique tropicale), Wageningen, Netherlands. http://database.prota.org/search.htm. Accessed 28 October 2010.

[203] Schmelzer, GH "Orbea decaisneana (Lem.) Bruyns." [Internet] Record from Protabase. (2010) Schmelzer, GH & Gurib-Fakim, A (Editors). PROTA (Plant Resources of Tropical Africa / Ressources végétales de l’Afrique tropicale), Wageningen, Netherlands. http://database.prota.org/search.htm Accessed 29 October 2010.

[204] Schmelzer, G.H., Pentarrhinum abyssinicum Decne. [Internet] Record from Protabase. (2010)Schmelzer, G.H. & Gurib-Fakim, A. (Editors). PROTA (Plant Resources of Tropical Africa / Ressources végétales de l’Afrique tropicale), Wageningen, Netherlands. http://database.prota.org/search.htm Accessed 29 October 2010.

[205] Schmelzer, GH "Quaqua mammillaris (L.) Bruyns." [Internet] Record from Protabase. (2010) Schmelzer, GH & Gurib-Fakim, A (Editors). PROTA (Plant Resources of Tropical Africa / Ressources végétales de l’Afrique tropicale), Wageningen, Netherlands. http://database.prota.org/search.htm Accessed 29 October 2010.

[206] Schmelzer, G.H., Riocreuxia polyantha Schltr. [Internet] Record from Protabase. (2010) Schmelzer, G.H. & Gurib-Fakim, A. (Editors). PROTA (Plant Resources of Tropical Africa / Ressources végétales de l’Afrique tropicale), Wageningen, Netherlands. http://database.prota.org/search.htm Accessed 29 October 2010.

[207] Sergeev, A "Picture Archives" http://www.asergeev.com/pictures/archives/2010/840/browser1.htm Retrieved 23/10/2010

[208] Sharma, S et al "Floral and pollination biology of Leptadenia reticulata (Retz.) Wight & Arn. a threatened medicinal plant." Asklepios (2008) 103: 25-28

[209] Shukla, YJ and Khan, IA "Phytochemical Constituents of Caralluma fimbriata" Planta Medica (2008) 74(3): 114

[210] Somsuba, W et al "Effects of three conventional cooking methods on vitamin C, tannin, myo-inositol phosphates contents in selected Thai vegetables." Journal of Food Composition and Analysis (2008) 21(2): 187-197

[211] South African National Biodiversity Institute, plantzafrica.com website http://www.plantzafrica.com Retrieved 22/10/2010

[212] Sreekumar, S et al "Production of 2-hydroxy 4-methoxy benzaldehyde using root cultures of Hemidesmus indicus" Biotechnology Letters (1998) 20(7): 631-635

[213] Sri Rama Murthy, K et al "Micropropagation of an endangered medicinal plant Ceropegia spiralis L." Journal of Agricultural Technology (2010) 6(1): 179-191

[214] Staal, F et al "Agni: The Vedic Ritual of the Fire Ritual" Vol. I (1983, Asian Humanities Press, Berkeley) Pages 186, 203

[215] Stapeliads.info website http://www.stapeliads.info Retrieved 13/10/2010

[216] Stapf, O "XXVII - Ecanda Rubber" Bulletin of Miscellaneous Information (Royal Gardens, Kew) (1908) (5): 209-215

[217] Stewart, JL and Brandis, D "The Forest Flora of North-West and Central India." (1874, Wm.H. Allen & Co., London) Pages 329-335

[218] Stuart, GA "Chinese Materia Medica: Vegetable Kingdom." (1911, Probsthain & Co., London, reprinted 1985, International Book Distributors, Dehra Dun, India)

[219] Stuart, GU "Philippine Alternative Medicine" http://www.stuartxchange.org/AltMed.html Accessed 17/11/2010

[220] Sudha, CG et al "In vitro propagation of Decalepis arayalpathra, a critically endangered ethnomedicinal plant." In Vitro Cellular & Developmental Biology - Plant (2005) 41(5): 648-654

[221] Sun, Y et al "Supercritical fluid extraction of paeonol from Cynanchum paniculatum (Bge.) Kitag. and isolation by high-speed counter-current chromatography coupled with high-performance liquid chromatography-photodiode array detector." Separation and Purification Technology (2008) 64(2): 221-226

[222] Swarnkar, S and Katewa, SS "Ethnobotanical Observation on Tuberous Plants from Tribal Area of Rajasthan (India)" Ethnobotanical Leaflets (2008) 12: 647-666 Online at http://opensiuc.lib.siu.edu/ebl/vol2008/iss1/87 Accessed 20/11/2010

[223] Tabuti, JRS et al "Traditional herbal drugs of Bulamogi, Uganda: plants, use and administration." Journal of Ethnopharmacology (2003) 88(1): 19-44

[224] Teklehaymanot, T and Giday, M "Ethnobotanical study of medicinal plants used by people in Zegie Peninsula, Northwestern Ethiopia." Journal of Ethnobiology and Ethnomedicine (2007) 3: 12

[225] Teklehaymanot, T and Giday, M "Ethnobotanical study of wild edible plants of Kara and Kwego semi-pastoralist people in Lower Omo River Valley, Debub Omo Zone, SNNPR, Ethiopia." Journal of Ethnobiology and Ethnomedicine (2010) 6: 23

[226] Thangadurai, D et al "Essential Oil Constituents and in Vitro Antimicrobial Activity of Decalepis hamiltonii Roots against Foodborne Pathogens." Journal of Agricultural and Food Chemistry (2002) 50(11) 3147-3149

[227] Thomson, GE "The Health Benefits of Traditional Chinese Plant Medicines: Weighing the scientific evidence. A report for the Rural Industries Research and Development Corporation" (2007, Rural Industries Research and Development Corporation, Kingston, ACT, Australia) https://rirdc.infoservices.com.au/downloads/06-128 Retrieved 24/10/2010

[228] Thulin, M et al "Cibirhiza spiculata (Apocynaceae): a remarkable new species from Ethiopia." Kew Bulletin (2008) 63(4): 617-624

[229] Thulin, M "New species of Caralluma and Ceropegia (Apocynaceae: Asclepiadoideae-Ceropegieae) from eastern Ethiopia." Kew Bulletin (2009) 64(3) 477-483

[230] Thunberg, CP "Travels in Europe, Africa, and Asia made between the years 1770 and 1779." Second Edition (1795, F. and C. Rivington, London) Vol. II: 140, 171

[231] Tropicos, http://www.tropicos.org/ Retrieved 13/10/2010

[232] Uddin Ahmad, V et al "New Pregnane Glycosides from Caralluma tuberculata." Journal of Natural Products (1988) 51(6): 1092–1097

[233] Ueda, J et al "Constituents of the Vietnamese Medicinal Plant Streptocaulon juventas and their Antiproliferative Activity against the Human HT-1080 Fibrosarcoma Cell Line." Journal of Natural Products (2003) 66(11): 1427-1433

[234] Uhe, G "Medicinal plants of Samoa: A preliminary survey of the use of plants for medicinal purposes in the Samoan Islands." Economic Botany (1973) 28(1): 1-30

[235] Upadhyay, B et al "Ethnomedicinal and ethnopharmaco-statistical studies of Eastern Rajasthan, India" Journal of Ethnopharmacology (2010) 129(1): 64-86

[236] Upadhyay, B et al "Ethno-veterinary uses and informants consensus factor of medicinal plants of Sariska region, Rajasthan, India" Journal of Ethnopharmacology (2010) In Press, available online 3rd September.

[237] Uphof JCTh "The Dictionary of Economic Plants" 2nd Ed. (1968, Lehre: J. Cramer)

[238] Venter, HJT et al "Morphology and taxonomy of Mondia (Apocynaceae: Periplocoideae)." South African Journal of Botany (2009) 75(3): 456-465

[239] Vikneshwaran, D et al "Ethnomedicinal Plants Survey and Documentation Related to Paliyar Community." Ethnobotanical Leaflets (2008) 12: 1108-1115 Online at http://opensiuc.lib.siu.edu/ebl/vol2008/iss1/146 Accessed 20/11/2010

[240] Viljoen, L and d'Alessi, F "Stapeliads.info" website http://www.stapeliads.info Retrieved 13/10/2010

[241] Watt JM and Breyer-Brandwijk MG "The Medicinal and Poisonous Plants of Southern and Eastern Africa : being an account of their medicinal and other uses, chemical composition, pharmacological effects and toxicology in man and animals" (2nd Ed, 1962 E & S Livingstone)

[242] Weiner, MA "Ethnomedicine in Tonga" Economic Botany (1971) 25(4): 423-450

[243] Western, AR "The Asclepiadaceae (Milkweed) family in the U.A.E." Tribulus: Bulletin of the Emirates Natural History Group (1992) 2(1): 11-14

[244] Whistler WA "Herbal Medicine in the Kingdom of Tonga" Journal of Ethnopharmacology (1991) 31: 339-372

[245] Williamson, EM "Major Herbs of Ayurveda." (2002, Churchill Livingstone) Pages 175-177

[246] Wrangham, R "Mahale Mountains Wildlife Research Centre - Flora (List 2)." http://weber.ucsd.edu/~jmoore/apesites/Mahale/Mahaleflora2.html from the "African Ape Study Sites" website http://weber.ucsd.edu/~jmoore/apesites/ApeSite.html Accessed 4/11/2010

[247] van Wyk, B-E et al "An ethnobotanical survey of medicinal plants in the southeastern Karoo, South Africa." South African Journal of Botany (2008) 74(4): 696-704

[248] Youngblood D "Identification and Quantification of Edible Plant Foods in the Upper (Nama) Karoo, South Africa." Economic Botany (2004) 58 Supplement: S43-S65

[249] Zachos, E "Practical Uses of various Hoya species." Asklepios (2005) 93: 10-17

[250] Zheng, X and Xing, F "Ethnobotanical study on medicinal plants around Mt.Yinggeling, Hainan Island, China." Journal of Ethnopharmacology (2009) 124(2): 197-210

[251] Zhu, Y-P "Chinese Materia Medica: Chemistry, Pharmacology and Applications." (1998, Harwood Academic Publishers)